9. Regulation and Decontrol of Crude-Oil Prices: 1971–84

The decade-long experience with crude-oil price controls from 1971 to 1981 is a unique episode in American regulatory history. The initial and subsequent regulations represented one of the most ambitious peacetime attempts ever made to fine-tune a major industrial sector to satisfy simultaneously the needs of consumers and producers.

This chapter begins by reviewing the Nixon price-control program between 1971 and 1974. Particular distortions with petroleum, it is found, led to a continuation of controls after Phase IV with the Emergency Petroleum Allocation Act of 1973 (EPAA). The Arab embargo, associated by many with the EPAA, is determined to have been an extenuating circumstance that ensured quick passage of, instead of serving as the impetus for, the law itself. Amendments to the EPAA in major 1975 and 1976 legislation—and later administrative rulemakings that made price regulation progressively more complex—are then examined. Phased decontrol between 1979 and 1981 ends the historical review.

The next major section evaluates both the goals and the results of regulation. To this end, a statistical summary of quantity and price during and after regulation is presented. As was the case for wellhead natural-gas regulation, reviewed in the previous chapter, price controls on crude oil are determined to have been counterproductive.

A major conclusion—that price controls predominantly redistributed wealth from producers and royalty owners to other parts of the industry rather than to consumers of petroleum products—will be further developed in later chapters on the crude-oil trading boom (chapter 12), the upsurge of small refiners (chapter 20), and retail regulation (chapter 27). Chapter 29, finally, brings together the major points of these chapters to offer a concluding view of this bellwether regulatory episode.

Prelude to Price Control: The Economic Stabilization Act of 1970

Government "jawboning" to arrest rising prices has accompanied inflation and its root cause, expansionary monetary policy. Invariably, activist government military and social programs require expenditures greater than tax receipts. Rather than borrow or raise taxes by the entire amount, part of the deficit has been monetized (i.e., financed by monetary creation by the Federal Reserve). Monetary creation, however, inflates general prices and causes economic dislocations. To quell public concern, government expediently substitutes effect for cause and publicly criticizes business for "causing" inflation by raising prices.

President Kennedy's verbal attack on U.S. Steel Corporation in 1962 was the beginning of the modern jawboning era.[1] The monetary creation-inflation-jawboning scenario continued in the Johnson administration with wage-price guidelines. In the early years of the Nixon administration, concern over rising prices led the Council of Economic Advisers to issue "inflation alerts" and have the Federal Reserve Board set wage guidelines on the assumption that inflation, running at 4 percent per annum, was of the "cost-push" variety.[2]

[1] For a history of similar earlier efforts beginning with the Truman presidency, see *Exhortation and Controls: The Search for a Wage-Price Policy, 1945–1971,* ed. Craufurd D. Goodwin (Washington, DC: Brookings Institute, 1975).

[2] The cost-push theory of inflation is criticized in this chapter, pp. 510–12.

The oil industry was particularly sensitive to government persuasion. In late 1970, after a round of crude-oil and product price increases, Nixon announced an investigation by the Office of Emergency Preparedness, issued an inflation alert, and publicly denounced the increases in speeches and print. He also relaxed oil-quota regulations under the Mandatory Oil Import Program and liberalized federal regulation of offshore production to increase supply.[3]

Informal inflation-fighting gave way to the Economic Stabilization Act on August 15, 1970, the result of election-year posturing by a Democratic Congress and Nixon. The act granted presidential authority to impose comprehensive wage, price, and rent controls.[4] Nixon pledged not to impose mandatory measures but signed the bill nonetheless.

General Wage and Price Controls: 1971–73

Phase I (Freeze 1)

Unexpectedly and against the better judgment of his economic advisers, President Nixon on August 15, 1971, imposed the first peacetime wage, price, and rent controls in U.S. history as part of a "New Economic Policy."[5] Previously, price controls had been implemented during the Revolutionary War by several states; during the Civil War by the South; and during World War I, World War II, and the Korean War by the federal government.[6] Nixon's surprise was by design. If businesses and labor were caught off guard, they could not raise prices and wages to weather the period of regulation.[7]

The ninety-day Phase I freeze lasted from August 15 until November 13, 1971. Headed by the newly established Cost of Living Council (CLC), administration of the program was delegated to the Office of Emergency Preparedness with local operations entrusted to the Treasury Department. Enforcement was assigned to the Internal Revenue Service. Prices, wages, and rents for petroleum firms, as for nonpetroleum firms excluding first sales of raw agricultural products and imports, were individually frozen at levels no greater than the price existing on May 25, 1970, or the price at which 10 percent or more of total transactions took place within a thirty-day period ending August 14, 1971.[8] If no transactions were made on these dates, the nearest thirty-day period could be used. For new items, the base price was to be that of the nearest like product.

The effect of the freeze on crude-oil exploration and production was not pronounced; for

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[3] "Gulf Leads a Price-Hike Bid," *National Petroleum News*, December 1970, p. 20; "Oil Industry Reaches for Higher Crude, Gasoline Prices," *National Petroleum News*, January 1971, pp. 31, 34. See chapter 6, p. 284, and chapter 13, pp. 749–50.

[4] Pub. L. 91-379, 84 Stat. 796 (August 15, 1970). The law stipulated that the base prices of any freeze not be less than those existing on May 25, 1970, and authorized price adjustments where needed to prevent "gross inequities."

[5] Executive Order 11615, 36 *Fed. Reg.* 15727 (August 17, 1971). The controls were upheld in Amalgamated Meat Cutters & Butcher Workmen v. Connally, 337 F. Supp. 737 (D.D.C. 1971).

[6] For a brief review of these efforts, see Robert Schuettinger and Eamonn Butler, *Forty Centuries of Wage and Price Controls* (Washington, DC: Heritage Foundation, 1979). Wartime price controls on petroleum are examined in chapter 5 (exploration and production), chapter 12 (transportation), chapter 19 (refining), and chapters 23 and 24 (retailing).

[7] Authority to freeze dividends was not contained in the Economic Stabilization Act, but government jawboning achieved virtually total compliance during Phase I. Cost of Living Council, *Economic Stabilization Program Quarterly Report, August 15–December 31, 1971* (Washington DC: Government Printing Office, 1972), p. 9.

[8] Interstate natural-gas sales were unaffected because of prior price-control authority vested in the Federal Power Commission. Intrastate natural-gas transactions came under Phase I.

most firms, the current configuration of costs and revenues allowed near-normal activities to continue.[9] During the three-month freeze, market-demand factors in Texas, Louisiana, Oklahoma, and New Mexico remained at slack but rising levels.[10] Expectations were altered from what they would have been in a regulation-free environment, but many if not most business people welcomed the "temporary" program for reasons popularized by the president.[11]

A few eschewed the optimism of the day. In his weekly "Watching Washington" column, Gene T. Kinney of the *Oil & Gas Journal* prophetically stated, "If crude oil is kept under political price control, undesired foreign dependence will accelerate. And the result will be ... domestic shortages and outrageous prices for foreign supplies that are the only alternative."[12]

Phase II

Phase II commenced on November 14, 1971, and remained in force until January 10, 1973.[13] The Price Commission and the Pay Board were created to administer the regulations under the CLC.[14] Phase I ceiling prices remained as base prices for Phase II. Unlike before, cost increases, adjusted downward for productivity gains, could be passed through on a percentage basis to obtain higher selling prices if margins, defined as pretax profits divided by net sales, were not greater than they had been in two of the firm's last three fiscal years ending prior to August 15, 1971. For multiproduct firms, which included twenty-one large oil companies, term-limit pricing (TLP), under which a weighted average price increase of 2 percent was allowed, was introduced.

Procedures to obtain higher prices depended on firm size. For companies with $100 million or more in yearly sales, thirty-day prenotification to the Price Commission was necessary. For firms with more than $50 million but under $100 million in sales, quarterly reports detailing changes in prices, costs, or profits were stipulated. Firms with sales under $50 million were required only to obey the general rules; they were not subject to prenotification or reporting requirements.[15]

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[9] Elsewhere in the petroleum industry, the effects of Phase I were more distortive. See chapter 20, pp. 1175–76, and chapter 27, pp. 1607–8.

[10] The market-demand factors during Phase I were as follows.

Date	Texas	Louisiana	Oklahoma	New Mexico[a]
1971				
August	66%	75%	75%	75%
September	65%	73%	75%	75%
October	63%	70%	75%	75%
November	63%	69%	75%	78%

[a]Average of Southeast and Southwest market-demand factors.

[11] An editorial in the *Oil & Gas Journal* typified general industry approval and support: "It goes without saying that oil companies and independents will follow the letter of Nixon's new program. But more is required. Directors and administrators of company funds should ... fall in step with the spirit of the bold new plan." "Oil Industry Has Stake in Success of Nixon Program," *OGJ*, editorial, August 23, 1971, p. 35. Cited hereafter as *OGJ*. The freeze was also supported by broad-based business groups such as the U.S. Chamber of Commerce and the National Association of Manufacturers.

[12] Gene T. Kinney, "Watching Washington," *OGJ*, August 30, 1971, p. 43.

[13] Executive Order 11627, 36 *Fed. Reg.* 20139 (October 16, 1971). On December 22, 1971, the Economic Stabilization Act was extended until April 30, 1973, to continue the price-control program. Pub. L 92-210, 85 Stat. 743 (1971).

[14] Other subagencies created for the effort were the Committee on Interest and Dividends and the Committee on State and Local Government Cooperation.

[15] "Heavy reliance was placed on self-administration of the standards for smaller units; these units were subject only to periodic review or a small probability of possible audit. In this respect, the regulations were

The change in regulatory emphasis from price to profit, signifying a liberalization of the price-control program, reflected a realization by authorities that some inflation, cited at 2 to 3 percent, was tolerable and indeed necessary to avoid major economic dislocation.[16] For crude-oil exploration and production, the modification was most pronounced for major companies that were required to pre-notify authorities before effectuating a price change. In February 1972, Shell Oil applied for a 2 percent price hike under the TLP system, the first major request under Phase II. Challenging the increase was the Independent Refiners Association of America, which lobbied for the weighted average increase to exclude crude oil.

The Price Commission concurred with the refiners' association and allowed price increases for chemicals and minor petroleum products only. The prices of crude oil and major petroleum products such as gasoline and fuel oil, reasoned the commission, were "sensitive" to the economy and should not be changed.[17] This "limited TLP" set the tone for future oil-company requests.[18]

The emerging regulatory double standard for major companies and independents was enlarged on May 6, 1972, when the small business exemption became effective. Firms with sales less than $50 million and fifty or fewer employees, excluding construction and health care companies, were exempted from price justification. This effectively deregulated independent producers at a time when a traditional buyer's market was turning into a seller's market.

In September 1972, the *Oil & Gas Journal* reported a "crude-supply squeeze." Storage tanks and oil pipelines were at capacity, and market-demand proration states raised allowables to "capacity" as defined by maximum-efficient-rate (MER) and yardstick tables.[19]

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administered in a way similar to the way the personal income tax is administered." Marvin Kosters, *Controls and Inflation: The Economic Stabilization Program in Retrospect* (Washington, DC: American Enterprise Institute, 1975), p. 19.

[16] Price Commission, press release, November 11, 1971. Reprinted in C. Jackson Grayson Jr (with Louis Neeb), *Confessions of a Price Controller* (Homewood, IL: Dow-Jones-Irvin, 1974), p. 242.

[17] Robert Franklin Lanzillotti, Mary T. Hamilton, and R. Blaine Roberts, *Phase II in Review: The Price Commission Experience* (Washington, DC: Brookings Institution, 1975), p. 171; and "Oil-Price Increases Face Tough Sledding," *OGJ*, February 7, 1972, p. 32.

[18] Oil firms accounted for 22 of 187 TLP increases granted in the Phase II period. Increases of 2 percent, in addition to Shell Oil, were granted to Ashland Oil, Atlantic Richfield Co., Cities Service Company, Continental Oil Company, Diamond-Shamrock, Gulf Oil Company, Humble Oil Company, Kerr-McGee Corporation, Mobil Oil Corporation, Murphy Oil Company, Occidental Petroleum, and Pennzoil United. Increases of 1.8 percent were granted to Getty Oil Company, Phillips Petroleum, and Union Pacific/Champlin Petroleum. The overall average percentage increase was 2.6 percent, which made the petroleum industry average one of the lowest of all industrial sectors. In addition, low-profile products generally received the highest markup, while high-profile items, such as crude oil and gasoline, received the lowest. To an extent, consumers of lesser oil products subsidized purchasers of major products. Henry H. Perritt Jr and Robert C. Dresser, "Policy Planning," in *Historical Working Papers on the Economic Stabilization Program: August 15, 1971 to April 30, 1974,* part 1, ed. Andrew T. H. Munro and Henry H. Perritt Jr. (Washington, DC: Government Printing Office, 1974), part 1, pp. 3, 92. Cited hereafter as *Historical Working Papers.*

[19] "The Crude Supply Squeeze Gets Tighter in the U.S.," *OGJ*, September 18, 1972, pp. 31–35. The escalation of state market-demand factors during Phase II was as follows.

Date	Texas	Louisiana	Oklahoma	Kansas	New Mexico[a]
1971					
November	63%	69%	75%	100%	80%
December	63%	69%	100%	100%	80%
1972					
January	68%	100%	100%	100%	100%

Independents began to increase posted prices and receive "premiums" from refiners, while majors had to live with modest TLP adjustments. As of December 14, 1972, TLP increases averaged 2.1 percent for major companies compared to non-TLP company increases of 6.1 percent.[20]

Phase III

Phase III began on January 11, 1973, and continued until June 12, 1973.[21] The base price was each firm's price on the last day of Phase II, January 10. If cost-justified, a price could be increased by 1.5 percent or a greater amount if the firm's base-period (Phase II) profit level was not exceeded. The program, intended to begin a phaseout of controls, was described by officials as "voluntary and on a self-administered basis." To this end, the Price Commission and the Pay Board were abolished.[22]

Phase II reporting requirements were revamped to apply only to firms with annual revenue above $250 million. Firms with revenue above $50 million were instructed to maintain records to submit if requested. The CLC, meanwhile, continued to monitor business and labor for standard violations.

During the early days of Phase III, oil began to emerge as a troublesome good for price controllers. Demand for petroleum products rose with industrial output, and prices edged upward. Hearings were held in February 1973 where CLC deputy director James McLane characterized the oil price problem as

> a classic demand-pull situation ... [t]he root causes [being] insufficient domestic crude production, although we are pumping proven reserves out of the ground as fast as possible.... There currently is no way for a company to determine with any degree of certainty whether a proposed price increase is compatible with the goals of the program.

With the handwriting on the wall, McLane continued:

> The way to remove the uncertainty generated by Phase III and the controls program is to be specific about what pricing flexibility oil companies can exercise.... Therefore, administration of effective oil pricing policy by the Cost of Living Council during Phase III will require a coordinated and close-monitoring control system, not a piecemeal approach as is anticipated under

February	76%	100%	100%	100%	100%
March	86%	100%	100%	100%	100%
April–January 1973	100%	100%	100%	100%	80–100%

[a]Northwest market-demand factor only.

[20] "Summary of Price Commission Decisions," *Historical Working Papers*, Data Appendix, p. 9. Oil-field-machinery companies followed a similar pattern: TLP companies averaged a 2.75 percent increase, while non-TLP companies averaged 5.25 percent.

[21] Executive Order 11695, 38 *Fed. Reg.* 1473 (January 12, 1973).

[22] The "voluntary" description was not to be taken literally. The authority and machinery for price enforcement were in place and could—and would—be reactivated. In Charles Owens's estimation, "The Administration had the 'club in the closet.'" Charles R. Owens, "History of Petroleum Price Controls," in *Historical Working Papers*, part 2, p. 1239. The *Oil & Gas Journal* warned: "The CLC may step in to prevent violations [by] ... issuing temporary orders, setting interim price and wage levels, holding hearings, and issuing special rules or orders.... Thus, for oilmen, whose crude and major product prices have been frozen, any significant increase might still face a federal rollback." "Nixon's Relaxed Price-Wage Setup Could Still Cramp Oil," *OGJ*, January 15, 1973, p. 43.

self-administered and voluntary controls.[23]

On March 6, 1973, a semblance of strict price controls was re-enacted with Special Rule no. 1 (SR-1), which regulated prices of petroleum firms with yearly sales of $250 million or more.[24] This included 25 petroleum firms that accounted for approximately 95 percent of industry sales.[25]

Intended "to assure the American consumer an adequate supply of oil at reasonable prices," SR-1 allowed these firms a 1 percent increase without justification and a 1.5 percent increase in weighted average product prices if corroborated by post-March 6 cost escalations. Price increases above 1.5 percent required not only cost justification but CLC prenotification. The thirty-day notice requirement, as well as delays and other stalling tactics, made the process unattractive.[26]

The result was a *de facto* freeze on crude prices because SR-1 companies refused to raise posted prices for purchased crude to avoid placing their refineries in a cost-price squeeze. Many independent producers with wells connected to distribution outlets of the major companies were adversely affected. Independents linked to non-SR-1 companies, on the other hand, were in a position to demand and receive higher prices since their crude was feedstock for products without price constraints.

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[23] CLC Deputy Director James McLane, quoted in Charles Owens, "History of Petroleum Price Controls," in *Historical Working Papers,* part 2, pp. 1240–41.

[24] CLC Release 219, 38 *Fed. Reg.* 6283 (March 8, 1973).

[25] Firms covered by the new rule and their 1972 gross operating revenue were:

1. Exxon ($20,310 million)
2. Mobil ($9,166 million)
3. Texas ($8,693 million)
4. Gulf ($6,243 million)
5. Cal. Stand. ($5,829 million)
6. Ind. Stand. ($4,503 million)
7. Shell ($4,076 million)
8. Continental ($3,415 million)
9. ARCO ($3,321 million)
10. Tenneco ($3,275 million)
11. Phillips ($2,513 million)
12. Union ($2,098 million)
13. Sun ($1,918 million)
14. Cities Service ($1,862 million)
15. Ashland ($1,780 million)
16. Ohio Standard ($1,447 million)
17. Getty ($1,405 million)
18. Amerada Hess ($1,334 million)
19. Marathon ($1,278 million)
20. Pennzoil United ($810 million)
21. Kerr-McGee ($680 million)
22. Skelly ($525 million)
23. Murphy ($378 million)
24. Amer. Petrofina ($285 million)
25 Clark ($279 million)

[26] The CLC was not above creating delays on purpose. One effective tactic was to hold public hearings where opponents could effectively delay or altogether kill a proposed price increase. Charles Owens "History of Petroleum Price Controls," in *Historical Working Papers,* part 2, p. 1248.

Almost immediately after SR-1 was passed, independents in Kansas and Oklahoma, encountering firm posted prices of major companies, threatened drastic action unless there was "equitable pricing."[27] They also suffered from a cost-price squeeze between unchanged posted prices and rising prices of uncontrolled well service and supply companies. The Kansas Independent Oil and Gas Association floated a plan for state conservation agencies in Texas, Kansas, Louisiana, and Oklahoma to shut down wells in protest. Some Oklahoma independents tested the political waters to see if a $5.00 per barrel floor price could be established.[28] Although none of these actions took place, concessions were gained to lessen the price gap between independents that were locked into SR-1 companies and independents that were not.

The inexorable drift toward greater imports and less domestic output led President Nixon to abolish import quotas on April 18, 1973, and recommend extending the investment tax credit to crude exploration. The price-control program was hemorrhaging, and more fine-tuning was necessary. Noticed Charles Owens, "Inflation in the oil industry had completely outrun the controllers, and the distortions and dislocations caused by the Phase III rules were beginning to loom large in almost every sector of the industry."[29] The predicament led to an extension of the Economic Stabilization Program to April 30, 1974, and to an overhaul of Phase III.

Phase III (Freeze 2)

The failure of Phase III to constrain petroleum prices, more the result of allowed cost pass-throughs than of noncompliance, led President Nixon to reimpose formal price controls on June 13, 1973. The sixty-day measure, which lasted through August 1, was intended to give regulators time to devise a more detailed program for oil. Individual prices were frozen at the highest level at which 10 percent or more of all transactions were priced between June 1 and 8, 1973.[30] Price hikes made between June 9 and 13 had to be rolled back.[31] The ceilings applied to all petroleum companies, as they did to other industries. Exempted were first sales of agricultural products and wages, rents, dividends, and interest rates that remained under Phase III voluntary guidelines. Increases in import prices could be passed through dollar-for-dollar under certain conditions.

Furthermore, companies with between $50 million and $250 million in annual revenues were instructed to submit quarterly reports of costs, profits, and prices for the first two quarters of 1973 to the CLC for auditing.

Price ceilings, like the earlier Phase I version, froze dual prices for identical crude oil within and between fields. In West Texas, for example, similar crude was posted at $3.70 per barrel by Gulf and at $4.05 by Shell.[32] This and other distortions due to stopgap regulation led to a reformulation of controls designed as a first step toward decontrol.

Phase IV

Phase IV became effective August 12, 1973, for all industrial sectors except food and the primary petroleum phases—production, refining, and retailing.[33] Oil-drilling, service, and supply companies were covered. Base prices were either those at which 10 percent or more of

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[27] "Crude Price Hikes Spread; More Sought," *OGJ*, March 19, 1973, p. 32.

[28] "Crude Price Hikes Spread; More Sought," *OGJ*, March 19, 1973, p. 32.

[29] Charles Owens, "History of Petroleum Price Controls," in *Historical Working Papers*, part 2, p. 1250.

[30] Executive Order 11723, 38 *Fed. Reg.* 15765 (June 15, 1973).

[31] For some posted price rollbacks for crude oil, see "Crude-Price Hike Breaks Rollback Trend," *OGJ*, July 2, 1973, p. 30.

[32] "Crude-Price Hike Breaks Rollback Trend," *OGJ*, July 2, 1973, p. 30.

[33] Executive Order 11723, 38 *Fed. Reg.* 15765 (June 15, 1973).

all transactions took place during the second half of Phase III or the average price during the last fiscal quarter ending before January 11, 1973.

Costs could be passed through dollar-for-dollar, subject to the profit-margin limitation used in Phase III. Small businesses with yearly sales under $50 million and less than 60 employees were to file annual reports with the CLC; companies with more than $50 million in sales were to submit quarterly reports; and companies above $100 million in sales were to pre-notify the CLC thirty days before scheduled price increases were to go into effect.

Proposed petroleum regulations were announced August 17.[34] The regulations were complex and comprehensive, covering each sector of the petroleum market transaction-by-transaction. Controllers knew from experience that partial regulation was ineffective. It was all or nothing, and the desire to phase out price controls to save face (outright termination would have entailed loss of face) led to the decision to begin the process from a full regulatory stance.[35]

The wellhead was one of four oil-industry sectors that came under tailor-made regulations in Phase IV.[36] The major regulation of exploration and production was a two-tiered ceiling price, effective September 1, 1973, corresponding to "old" and "new" oil.[37] New oil was the amount of crude produced monthly in excess of production on a particular property during the same month of 1972.[38] Old Oil was the monthly 1972 amount, known as the Base Production Control Level (BPCL).

Cumulative production for the year ending with the 1973-month was to exceed the yearly amount at the end of the same month in 1972 month. Greater amounts were New Oil.[39] New Oil was uncontrolled and free to fetch the market price, while Old Oil was pegged at its historic May 15, 1973, price plus $0.35 per barrel per grade.[40] The May 15 base day, which controllers considered tranquil in the industry, was also the basis for price regulation in the other petroleum sectors.[41]

An additional incentive for new production under Phase IV allowed Old Oil to become unregulated "Released Oil" by the amount New Oil exceeded the BPCL amount. For example,

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[34] 38 *Fed. Reg.* 22536 (August 22, 1973). The rules were first presented for comment July 19. Between this time and Phase IV's implementation, the CLC received 272 formal comments and met with an estimated 1,500 industry representatives. Charles Owens, "History of Petroleum Price Controls," in *Historical Working Papers*. Part 2, p. 1264.

[35] "Controllers had learned the hard way that, even to have a chance to stem inflation in oil, the entire industry had to be controlled. They would not make the mistake they made in Phase III of creating two classes of sellers by controlling only part of the industry." Charles Owens, "History of Petroleum Price Controls," in *Historical Working Papers*, part 2, p. 1261.

[36] The other three were the reseller phase (pp. 687–89), the refiner phase (pp. 1181–85), and the retailer phase (pp. 1615–19).

[37] Multiprice regulation, although new for crude oil, had a history in natural-gas price regulation beginning with area rate assignments in 1960. Statutory tier pricing for natural gas was implemented in 1978, very possibly influenced by crude-oil tiers established five years before. See chapter 8, pp. 426–29.

[38] If production did not occur in the corresponding month of 1972, a monthly average was to be used. If no production took place in the entire year, the oil was considered New Oil.

[39] Charles Owens, "History of Petroleum Price Controls," in *Historical Working Papers*, part 2, p. 1265.

[40] The $0.35 per barrel premium represented a hard-won victory for the (upstream) Independent Petroleum Association of America. Defended on the grounds of increased production costs in the post–May 15 period, the premium prevented across-the-board rollbacks for producers.

[41] "On that day domestic crude oil postings reflected traditional domestic price parity. Historical differentials by field and by grade and gravity were operating with minor exceptions ... Further, the May 15 date preceded the initiation of the second round of crude price increases in 1973 that began on June 1." Charles Owens, "History of Petroleum Price Controls," in *Historical Working Papers*, p. 1266.

if a property produced 100 barrels in October 1972 and 150 barrels in October 1973, then 50 barrels were Old Oil, 50 barrels were Released Oil, and 50 barrels were New Oil. One hundred barrels would sell at the market price, and 50 barrels would be restricted to the May 15, 1973, price plus $0.35 per barrel.[42]

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The first modification of Phase IV crude regulation came on November 16, 1973, when Stripper Oil was exempted from price regulation by section 406 of the Trans-Alaskan Pipeline Authorization Act.[43] The culmination of a long lobbying effort by independent producers, the exemption applied to all properties that produced less than 10 barrels per day of crude oil and condensate in the preceding calendar month.[44]

The effect of the rule was dramatic: stripper output that previously sold at the controlled price of approximately $4.25 per barrel reached $10 per barrel by January 1974.[45] Not surprisingly, the number of wells producing under 10 barrels per day increased practically overnight. Simple economics told the producer to reduce production from wells in the 11 to 20 barrel per day range to achieve decontrolled status, a reclassification that was achievable with only a one-month dead period. This loophole, however, would soon be eliminated.[46]

Crude oil was now classified into four categories outside those of its innate gravity and sulfur content: Old Oil, priced at posted May 15, 1973, prices plus $0.35 per barrel; New Oil and Stripper Oil, priced at market; and Released Oil, priced at a weighted average between Old Oil and New Oil (but in fact commanding an uncontrolled price when not weighted).

By this time, the Arab embargo, announced October 7, was being felt, and on November 27, 1973, the EPAA, which gave the president additional authority to regulate crude oil prices, was passed.[47] For the time being, that act was moot; the Economic Stabilization Act was in effect with Phase IV specifications.

A second modification to Phase IV regulation of crude-oil prices occurred on December 21 when the May 15 price premium of $0.35 per barrel was raised to $1.35 to close the widening gap between controlled and uncontrolled crude.[48] CLC director John Dunlop called the existing

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[42] Producers were initially concerned about purchaser discrimination violating state common-purchaser statutes from locked-in price differentials. To partially eliminate the problem, the CLC devised a weighted average price for Old Oil and Released Oil by the following formula.

$$P_{max} = P_c + \frac{(C_{pr} - 1)(P_m - P_c)}{(C_{bp})}$$

where

P_{max} = maximum price for non-New Oil ($/bl),

P_c = ceiling price of crude oil ($/bl),

C_{bp} = base period control level (bl),

C_{pr} = crude production for current month (bl), and

P_m = unregulated price ($/bl).

A major differential remained between the price of New Oil and the weighted Old Oil–Released Oil average price that would lead to the refinery entitlements equalization program. See chapter 20, pp. 1205–8.

[43] Pub. L. 93-153, 87 Stat. 576 (1973).

[44] The "property" definition would be a source of much confusion and litigation from this point until the end of crude price controls in 1981. See this chapter, pp. 515–21.

[45] Charles Owens, "History of Petroleum Price Controls," in *Historical Working Papers*, part 2, p. 1308; and "U.S. Exempt-Crude Prices Reach $10/bbl," *OGJ*, January 14, 1974, p. 23.

[46] See this chapter, p. 488.

[47] Pub. L. 93–159, 87 Stat. 627 (1973).

[48] 38 *Fed. Reg.* 34896 (December 21, 1973).

$4.00 per barrel differential "potentially destabilizing," given the intention of Phase IV to phase out price controls by April 1974, not lock in restrictions that, once removed, would cause price explosions.[49]

These two Phase IV revisions were the only major ones affecting crude-oil pricing. It was expected that Old Oil would join the other three classifications, which would completely deregulate the crude market—as was envisioned for the rest of the economy (except for separately regulated natural-gas production and distribution). Speaking of sectoral decontrol in his Phase IV announcement, Nixon stated on July 18, 1973:

> There is no need for me to reiterate my desire to end controls and return to the free market.... Our experience with the Freeze has dramatized the essential difficulties of a controlled system—its interference with production, its inequities, its distortions, its evasions, and the obstacles it places in the way of good international relations.[50]

§§

Decontrol would not be petroleum's fate despite the industry-by-industry deregulation that began on October 25. On February 26, 1974, controls were dropped for manufacturers of oil-field machinery, followed by the drilling service and supply industry on April 1.[51] Tubular goods (casing, tubing, and drill pipe) in short supply as a result of price controls—which stimulated demand and reduced supply—were decontrolled in early May.[52]

Regulatory-induced supply problems created industry demands for mandatory allocation, concentrated at the wholesale gasoline level and because of import-price havoc caused by the Arab embargo. Thus control over prices and allocation of crude oil and oil products would not terminate on April 30, 1974, as it did for other goods and services.

Phases I to IV in Retrospect

General Effects. The Nixon price-control program was a desperate supplement to Keynesian economic contracyclical policy that had become increasingly problematic since its formal implementation in the Full Employment Act of 1946.[53]

Keynesian policy was as follows: By judiciously manipulating the economy's variables through fiscal and monetary policy, the government was to maintain a level of aggregate demand to steer the economy clear of inflation on the one hand and unemployment on the other. If prices were escalating, aggregate demand could be reduced by increasing taxes, decreasing government expenditure, and decreasing the money supply to achieve price stability. If unemployment was rising, aggregate demand could be increased by decreasing taxes, increasing government expenditure, and increasing the money supply to approach full employment. Aggregate demand was to be altered by government policy that went *against the*

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[49] "CLC Approves $1 Crude-Price Increase," *OGJ*, December 24, 1973, p. 18. Said Dunlop, "When we announced the final oil regulations in August, we stated that we would continually monitor the ceiling prices of domestic crude petroleum and would periodically raise the ceiling price toward achieving parity with world prices." Quoted in Charles Owens, "History of Petroleum Price Controls," in *Historical Working Papers*, part 2, p. 1309.

[50] President Richard M. Nixon, quoted in Jonathan Brock and Roger Winsby, "Removing Controls: The Policy of Selective Decontrol," in *Historical Working Papers*, part 2, p. 868–69.

[51] 39 *Fed. Reg.* 7796 (February 28, 1974); CLC Release 563, April 11, 1974; and *OGJ*, "CLC Drops Price Controls on Oil-Field Machinery Sales," March 11, 1974, pp. 52–53; and "U.S. Drilling Responds Smartly to Higher Prices at Wellhead," *OGJ*, April 8, 1974, p. 55.

[52] Executive Order 11781, 39 *Fed. Reg.* 15749 (May 6, 1974).

[53] Pub. L. 79-304, 60 Stat. 23 (1946).

economic cycle, against the inflationary boom by reducing overheated demand and against depressionary unemployment by stimulating stagnant demand.

But what if inflation and unemployment were simultaneously high, a real-world fact that uncovered a glaring anomaly in Keynesian theory?[54] How could economic planners concurrently increase and decrease aggregate demand to address both problems? This predicament plagued Keynesian policy practitioners—Truman, Eisenhower, Kennedy, Johnson, and particularly Nixon—and forced them into desperate postures of "exhortations and controls" to fight rising prices while stimulating the economy. The rationale was that "inflationary expectations" created the dilemma, and if moral suasion or formal controls could tame inflation by eliminating or reducing this psychological phenomenon, then unemployment could be reduced in a noninflationary way. This would not be the case, signaling the decline—in theory if not practice—of the Keynesian orthodoxy.[55]

Not unlike similar attempts over the centuries, the American price-control experience under Nixon failed to constrain prices and produced myriad undesirable side effects.[56] Inflationary psychology, the alleged culprit that the New Economic Policy was to tame, was never seriously threatened. It was business-as-usual at the Federal Reserve, and the control program was never intended for the long term. Indeed, if price controls were set for an extended period, expectations of a worse kind would develop, as government officials knew.

Inflation, as can be seen in figure 9.1, continued a downward trend that began in 1970 during Phase I, the result of reduced monetary growth, and climbed during the remaining control period as a result of increased growth in the money stock. In fact, price controls *encouraged* inflation to the extent that pressure was reduced on the Federal Reserve to restrict monetary growth.[57]

Figure 9.1

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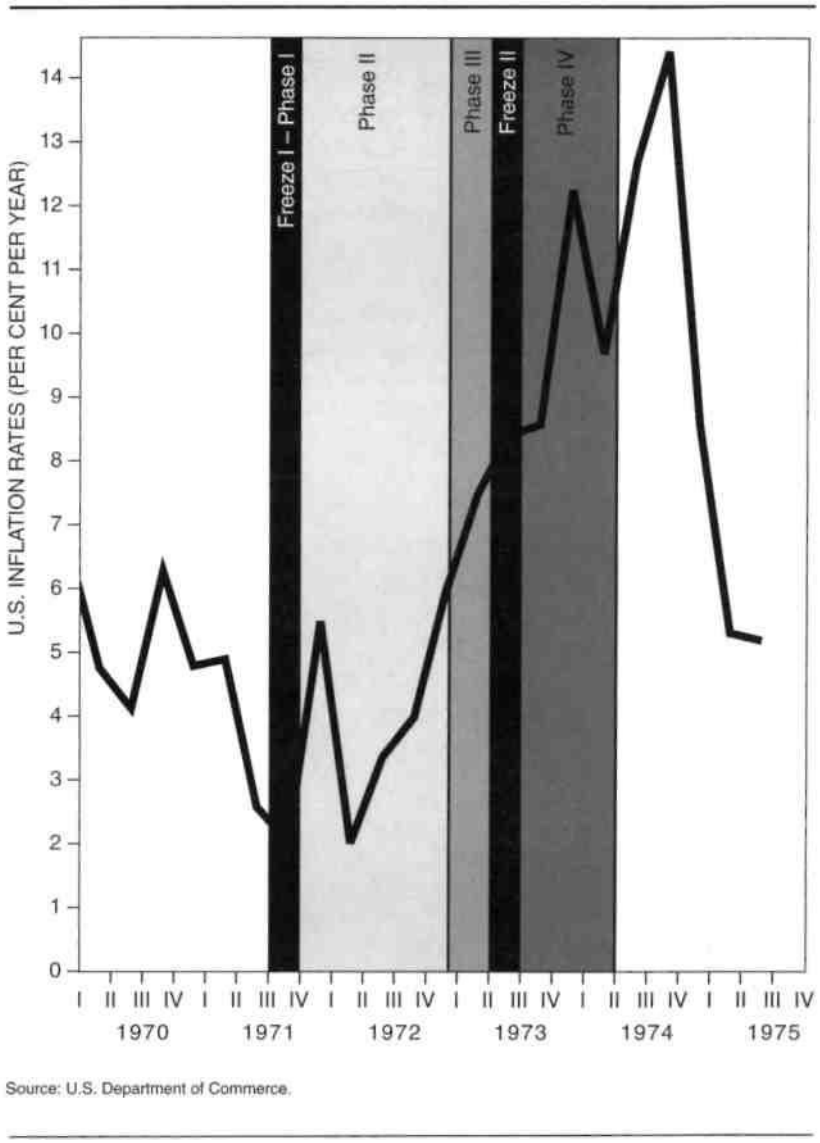
[54] For a theoretical explanation of simultaneous inflation and unemployment, called stagflation, see Friedrich A. Hayek, *A Tiger by the Tail: The Keynesian Legacy of Inflation,* Cato Paper No. 6 (San Francisco, CA: Cato Institute, 1979). Simplified, the explanation is that monetary creation spawns recession in addition to inflation because falsified interest rates and other errant prices misdirect resources into areas not consonant with true consumer preference. When monetary growth slows or fails to accelerate, malinvestments manifested by business failures and unemployment come to light.

[55] Remarked the renowned Keynesian Sir John Hicks: "There can yet be no doubt that the [postwar] boom was associated, in the minds of many, with the Keynesian policies; so when ... the boom itself began to falter, the authority of the policies that were supposed to have led to it inevitably began to be called in question. Instead of producing *real* economic progress, or growth, as they had for so long appeared to do so, they were just producing inflation. Something, it seemed clear, had gone wrong. ... So the issue which seemed closed is re-opened. We have to start, in a way, all over again." John Hicks, *The Crisis in Keynesian Economics* (New York: Basic Books, 1974), pp. 3–4.

[56] The Phase I–Phase IV experience followed the typical path of other control programs in different countries and different eras. "Grandiose plans for regulating investment, wages, prices, and production are usually unveiled with great fanfare and high hopes. As reality forces its way in, however, the plans are modified in the initial stages, then modified a little more, then drastically altered, then finally allowed to vanish quietly and unmourned." Robert Schuettinger and Eamonn Butler, *Forty Centuries of Wage and Price Controls,* p. 9. For an inside view of the problematic task of controlling prices during Phase I–Phase IV, see C. Jackson Grayson, *Confessions of a Price Controller.*

[57] Observed Michael Darby: "The [Economic Stabilization Program] was supposed to reduce the expected rate of inflation and hence ease the adjustment to lower rates of money supply growth and inflation. Apparently the Fed did not get the message since it increased the money supply growth rate when it should have reduced it. So previous progress against inflation—achieved at a cost that included the 1969–1970 recession—was thrown away." Michael Darby, "The U.S. Economic Stabilization Program of 1971–1974," in *Have Controls Ever Worked? The Post-War Record*, ed. M.A. Walker (Vancouver, British Columbia, Canada: Fraser Institute, 1976), pp. 52–53.

U.S. INFLATION RATES: 1970–75



SOURCE: Michael Darby, "The U.S. Economic Stabilization Program of 1971-1974," in *The Illusion of Wage and Price Control*, ed. Michael Walker (Vancouver: Fraser Institute, 1976), p. 44. Used by permission.

The gains against inflation made by regulation proved illusory. Not only did product quality decline to maintain margins in the face of fixed selling prices, but government regulators purposely prevented increases for some of the 400 goods and services comprising the Consumer Price Index in return for granting liberal increases for "nonvisible" items not included in the price-index calculation.[58] Both effects *understated* inflation measured by the index.[59]

[58] For examples within the petroleum sector, see chapter 27, pp. 1608–9.

[59] Michael Darby, focusing exclusively on quarterly adjusted real output, concludes that inflation was understated during Phases I and II and overstated during Phases III and IV. Darby, "The U.S. Economic Stabilization Program, 1971–1974," pp. 43–53. This conclusion, however, crucially assumes a rigid relationship between output and employment (Okun's Law). The present analysis concludes that inflation was consistently understated because the Consumer Price Index calculators fell behind in their adjustments of quality changes, and the controllers purposefully traded unrecorded inflation for reductions in Consumer Price Index inflation.

The particular methodology of the price-ceiling program, which constrained prices and profits to historical levels, created a number of distortions of normal profit-maximizing behavior. Price ceilings tied to previous sales locked in nonrepresentative (disequilibrium) prices and created multiple prices not attributable to transportation differentials for identical products. This created opportunities for middlemen to buy relatively underpriced items, including petroleum, and sell them at higher "market" prices.[60] The profit-margin limitation encouraged firms *not* to minimize costs by raising productivity and monitoring discretionary expenditure or to maximize revenue by altering new-product mixes or by integrating to stay within allowable profits.[61]

As an alternative to the "inefficiency" route around regulation, firms employed "sham transactions" in which not-for-profit trades were made to lower the profit-to-sales margin to legal levels.[62] "Creative accounting"—whereby year-end inventory was conservatively estimated to increase the cost of goods sold to reduce profit margins—was also employed.[63]

Although there is not an exact quantitative relationship between money growth and prices—the subjective mind stands in between—the correspondence between the two during Phases I–IV was only slightly dampened by the price-control experience, as shown in figure 9.2.

Figure 9.2

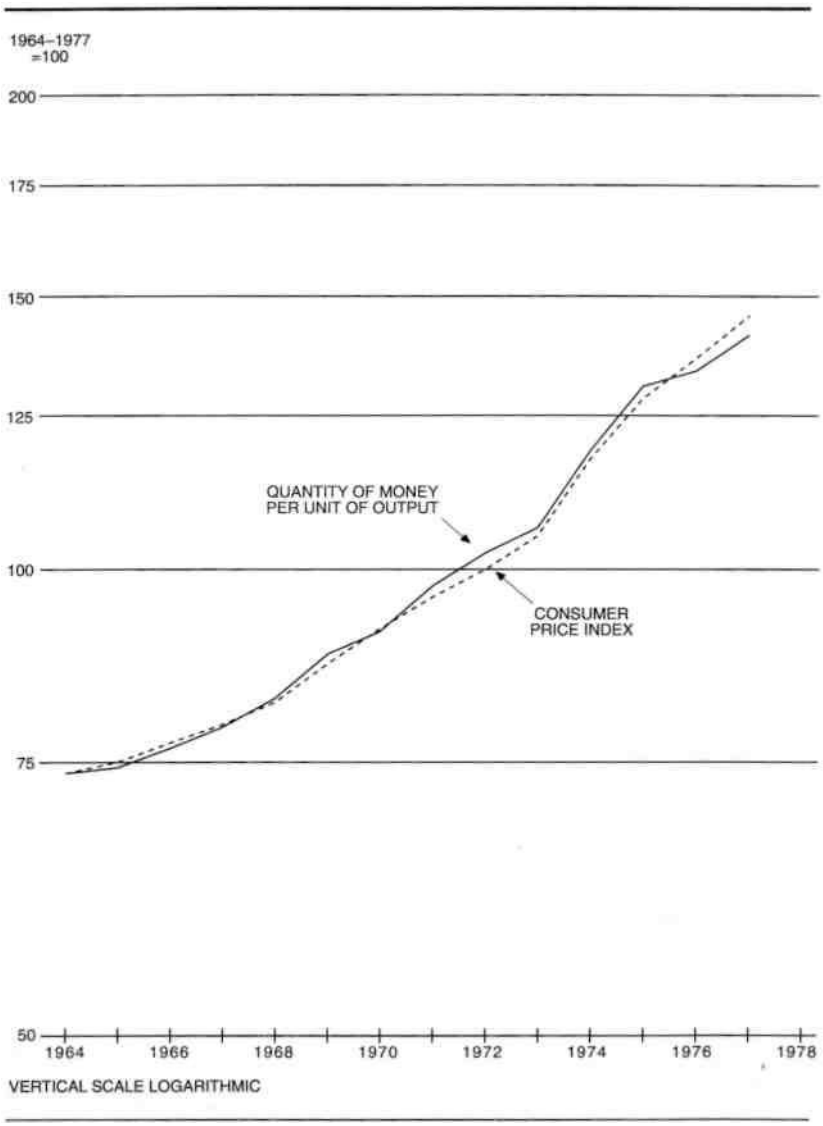
U.S. MONEY AND PRICE GROWTH: 1964–77

[60] See chapter 12, pp. 687–93.

[61] John Flory, "Price Control Mechanisms," in *Historical Working Papers,* part 1, pp. 293–96.

[62] For greater description of how firms "played the regulations" to minimize the effect of controls, see John Flory, "Price Control Mechanisms," in *Historical Working Papers,* part 1, pp. 296–99.

[63] Michael Darby, "The U.S. Economic Stabilization Program of 1971–1974," p. 40.



SOURCE: Milton Friedman and Rose Friedman, *Free to Choose: A Personal Statement* (New York: Harcourt Brace Jovanovich, 1979), p. 257. Used by permission.

Prices and profits reflect changing consumer demand in a free market. Under regulation, locked-in prices and profit margins become obsolete and misallocate resources away from their most urgent uses. Efficiency is lost, and new opportunities are not brought to the attention of entrepreneurs. Resources that go toward formulating, administering, complying with, and circumventing the controls are misspent from a free market perspective. These costs, including lost production of essential commodities (such as oil), has a large price tag.[64] Meanwhile, the underlying cause of inflation—monetary growth—remains unaddressed with the diversion of wage and price controls.

Crude Oil Exploration and Production. The crude-oil price-control program could not have come at a more inopportune time for the wellhead industry or national welfare. The Organization of Petroleum Exporting Countries (OPEC), founded in 1960 in response to declining world oil prices and U.S. import restrictions, had long wanted to cartelize supply to control price.[65] This was not possible, however, unless the cartel could gain a large share of

[64] See Robert Bleiberg, "Wage and Price Controls," in *Champions of Freedom* (Hillsdale, MI: Hillsdale College Press, 1974), pp. 127–29.

[65] See chapter 13, pp. 758, 764.

U.S. consumption and prevent the domestic industry from effectively responding to cartel-type action that OPEC might take.

State proration regulation, by restricting output and increasing unit costs, gave OPEC a boost by increasing the competitive position of U.S. imports in the 1950s and 1960s, a situation that protectionist quotas were intended to negate. With price controls in the 1970s, which at once discouraged exploration and production and artificially stimulated demand (not unlike the situation in interstate natural-gas markets), OPEC received a godsend that would pave the way for later developments.[66]

The general effect of Phase I through the first half of Phase III was to keep a depressed industry down. Prices remained artificially low, despite virtual deregulation of smaller firms due to a direct link, in many cases, between independent producers and integrated companies. Phase IV, however, would create a series of distortions of its own.

The introduction of two-tiered pricing was accompanied by high hopes. Here, they thought, was fine-tuning at its best: ceilings on Old Oil prices for consumers and unregulated New Oil and Released Oil prices for producers. Assistant Secretary of the Interior Stephen Wakefield lauded the novel program as "a constructive balance ... between the legitimate interests of both producers and consumers."[67]

Indeed, the program provided greater incentive than before for producers, and the large supply of Old Oil was attractively priced for consumers. But this neglected the inherent distortions and perversities created by the half slave-half free pricing system. Seen in retrospect, the two-tiered pricing of Phase IV was the first stage of a regulatory nightmare that would last far beyond anyone's initial expectations.

Double-pricing quickly led to opportunistic entrepreneurial behavior. Industry participants purchased controlled crude at regulated prices and processed the crude into uncontrolled product to sell at market prices. Arbitrage opportunities became so great that *crude-oil reselling* became an industry growth area.[68] At the wellhead, reports were heard of adjacent leaseholders shutting down existing wells to redrill on new property to produce New Oil exclusively.[69] Tremendous demand for price-controlled oil, substantially below market-clearing levels, sent excess demand toward New Oil, Released Oil, and imports, which bid prices to levels *above* what an unregulated market would have allowed. Old Oil price ceilings, in short, subsidized the other three.[70]

Purchasers broke the distortion altogether—tie-in sales occurred wherein New Oil was bought at an inflated price to purchase Old Oil. A concerned CLC heard a "widely circulated rumor" of a buyer paying a producer $50,000 for a single barrel of New Oil to obtain a batch of Old Oil.[71]

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[66] Statistics showing the gap between domestic production and consumption during Phases I–IV and the OPEC price explosion in late 1973 are presented in this chapter, pp. 522–23.

[67] "Oil-Price Rollback Appears Inevitable," *OGJ*, July 30, 1973, p. 90.

[68] See chapter 12, pp. 687–90.

[69] William A. Johnson, "The Impact of Price Controls on the Oil Industry: How to Worsen an Energy Crisis," in *Energy: The Policy Issues*, ed. Gary D. Eppen (Chicago, IL: University of Chicago Press, 1975), p. 111. Johnson also mentions the practice of "converting old oil to new oil merely by shuffling paper and redefining leaseholds" rather than by the more expensive practice of redrilling wells (p. 111).

[70] For examples of New-oil price hikes, see "Higher Crude Prices Build Drive for New Oil in U.S.," *OGJ*, September 17, 1973, pp. 29–33; and "U.S. Exempt-Crude Prices Reach $10/bbl," January 14, 1974, p. 23. A similar thing occurred with natural gas when deep gas was deregulated in late 1978. See chapter 8, pp. 443–44.

[71] Charles Owens, "History of Petroleum Price Controls," in *Historical Working Papers*, part 2, p. 1307.

Economic inefficiency followed the distorted incentive to produce New Oil at almost any cost. Artificially encouraged, development wells were rapidly drilled and new pumping units installed on existing wells to increase the amount of New Oil. Old-oil wells were even shut down to increase neighboring New Oil.[72] This spawned a mini-drilling boom held back only by material shortages, themselves a consequence of price controls.[73]

Another consequence of the once-heralded double-price program was the creation of political constituencies behind each oil tier. Producers and royalty owners lobbied for price decontrol.[74] Lobbying for price controls were emerging consumer organizations and refineries that desired cheap feedstock.[75] The two-tiered crude-oil price scheme, the centerpiece of a "temporary" program, would resist decontrol for years to come.

Emergency Petroleum Allocation Act of 1973

On October 6, 1973, the Fourth Arab-Israeli War broke out. A day later, the Arab countries, led by Saudi Arabia, unveiled the "oil weapon" by threatening to cut off oil exports to any country aiding Israel's war effort. Nonetheless, the United States continued to supply arms and spare parts to Israel, and on October 17, the Organization of Arab Petroleum Exporting Countries (OAPEC) announced a general production cutback and an embargo on the export of oil to the United States and the Netherlands.

Posted prices soared as a result of panic buying. A 2- to 3-million barrel per day shortfall, accounting for 10 to 17 percent of U.S. consumption, was predicted by U.S. officials.[76]

At the time of the embargo, a comprehensive oil-regulation bill was well on its way to congressional approval. Shortages experienced *prior* to the cutoff by independent refiners, marketers, and farmer cooperatives from price controls, and in particular as a result of propane shortages from regulation elsewhere (Special Rule no. 1), created political pressure for regulatory relief that the embargo only hastened.[77] On November 27, 1973, Nixon signed the Emergency Petroleum Allocation Act (EPAA) into law.[78]

Although the EPAA was primarily concerned with government allocation of scarce oil supplies, it prominently regulated crude-oil prices.[79] Phase IV regulations remained in effect,

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Another "tie-in" example is given by William Johnson, "The Impact of Price Controls on the Oil Industry," pp. 110–11. The National Petroleum Refiners Association lobbied for a single price ceiling because of the tie-in problem. "Dunlop Renews Promises to Raise Retail Ceilings Again," *OGJ*, October 15, 1973, p. 63. In May 1974, a regulation against tie-in sales was issued. 39 *Fed. Reg.* 17766 (May 20, 1974).

[72] "Gerrymandering" is discussed in more detail in this chapter, p. 489.

[73] "Tubular-Goods Pinch Hits Drilling Pickup," *OGJ*, October 22, 1973, pp. 11–14, and "CLC Asked to Lift Price Lid on Tubular Goods," March 18, 1974, p. 39. Spot shortages of propane also idled drilling rigs. "Propane Joins Growing U.S. List of Supply-Short Fuels," *OGJ*, May 21, 1973, p. 59.

[74] While the majors favored outright control, the Independent Petroleum Association of America pragmatically lobbied for higher prices for Old Oil.

[75] Charles Owens, "History of Petroleum Price Controls," in *Historical Working Papers*, part 2, p. 1306. Also see Milton Friedman, "Who Opposes Oil Decontrol?" *Newsweek*, September 15, 1975, p. 64.

[76] William C. Lane Jr., *The Mandatory Petroleum Price and Allocation Regulations: A History and Analysis* (Washington, DC: American Petroleum Institute, 1981), p. 31. Imported crude prices rose by approximately 75 percent in October alone. "World Shaken by Arab Oil-Export Cuts," *OGJ*, October 29, 1973, pp. 49–52.

[77] See John Kraft and Mark Rodekohr, "Crude Oil Price Controls: Their Purpose and Impact," *Denver Journal of International Law and Policy* 8, no. 1 (Winter 1979): 321. For greater discussion of the passage of this act, see chapter 27, pp. 1624–26.

[78] Pub. L. 93-159, 87 Stat. 627 (1973).

[79] "The President shall promulgate a regulation providing for the mandatory allocation of crude oil ... at prices

and with the expiration of the Economic Stabilization Act on April 30, 1974, price controls under the EPAA began.[80] Administered by the Federal Energy Office, which on December 26, 1973, took over petroleum matters from the CLC, the EPAA carried forward the Phase IV two-tiered program.[81] Old Oil remained at its May 15, 1973, price plus $1.35 per barrel (approximately $5.25), and New Oil, Released Oil, Stripper Oil, imported oil, and oil certified for export were allowed free determination.[82] Also contained in the act was a directive to establish "equitable pricing,"[83] first promulgated in the 1970 Economic Stabilization Act.

One change in the new law tightened the qualification for Stripper Oil. Previously, a property could qualify for stripper status if production from the previous month averaged less than 10 barrels per day; now production had to average less than 10 barrels per day for the preceding *calendar year* to qualify. This removed the exploited incentive to underproduce to qualify for uncontrolled prices three weeks after the original stripper exemption was passed.[84]

Strong sentiment to recontrol exempted crude surfaced soon after the EPAA became law. On February 21, 1974, an exemption given to state and local government sales of crude oil was rescinded.[85] A general rollback measure in early 1974 was soundly defeated in the Senate, but rising import and petroleum-product prices led to another bill a month later, the Energy Emergency Act, to roll back New Oil, Released Oil, and Stripper Oil to the Old-oil price of $5.25 per barrel.[86] President Nixon vetoed the bill, which was sustained in the Senate, which only postponed a rollback of more modest proportions that would occur later that year.

On May 27, 1974, petroleum regulation was transferred from the Federal Energy Office to the newly created Federal Energy Administration (FEA) with Simon in charge.[87] The FEA, while primarily concerned with mandatory allocation and the refinery-entitlements program, issued crude-oil price rulings in two troublesome areas: stripper-well qualification and "tie-in" sales of New Oil and Old Oil. Four rulings in late 1974 and 1975, representing "the first real regulatory venture into the crude oil production segment of the oil industry since the original promulgation of the Phase IV pricing rules,"[88] clarified the qualifications for stripper-well exemptions:

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specified (or determined in a matter prescribed by) such regulation." Pub. L. 93-159, 87 Stat. 629 (1973).

[80] Executive Order 11748, 38 *Fed. Reg.* 33575 (December 6, 1973).

[81] The evolution of federal-level petroleum bureaucracy began in late 1972 when Nixon established a "super cabinet" position, the counselor to the president on natural resources. This was followed by the Oil Policy Committee (OPC) in early 1973 and the Energy Policy Office (EPO) soon thereafter to oversee the OPC. The EPO, in turn, was replaced by the Federal Energy Office (FEO) on December 6, 1973. See John Carver, "Government Regulation of Petroleum: 1973 Developments," *Proceedings of the Twenty-Fifth Annual Institute on Oil and Gas Law and Taxation* (New York: Matthew Bender, 1974), pp. 2–8.

[82] Pub. L. 93-159, 87 Stat. 630, § 4(b)(2)(B) (1973).

[83] Pub. L. 93-159, 87 Stat. 630, § 4(b)(1)(F) (1973).

[84] This would not discourage some firms from curtailing output to illegally classify production as Stripper Oil. See U.S. General Accounting Office, *Federal Energy Administration's Efforts to Audit Domestic Crude Oil Producers* (Washington, DC: Government Printing Office, 1975), pp. 6–7.

[85] 39 *Fed. Reg.* 7176 (February 25, 1974).

[86] Energy czar William Simon, concerned about the high level of exempt prices, supported a rollback as long as it was not too low. To this end, he considered administratively ordering price reductions for exempt oil. "U.S. Crude-Price Rollback Seen Certain," *OGJ*, February 18, 1974, p. 46.

[87] Pub. L. 93-275, 88 Stat. 96 (1974).

[88] James C. Langdon Jr., "Domestic Crude Oil Production—The FEAA Regulatory Framework," *Proceedings of the Twenty-Eighth Annual Institute on Oil and Gas Law and Taxation* (New York: Matthew Bender, 1977), p. 15.

1. Natural-gas liquids or condensate from gas wells did not qualify.[89]
2. Injection wells, shut-in wells, and disposal wells could not be added to producing wells to determine average well production.[90]
3. Casinghead gas, if treated and sold as crude oil at the lease, could qualify.[91]
4. Producing wells on a stripper property had to operate "at the maximum feasible rate of production, in accordance with recognized conservation practices."[92]

The above clarifications were designed to tighten loopholes that allowed producers to maximize income by making perverse output decisions. But one loophole, "gerrymandering," remained: offset-well drilling to reduce average output per well from a particular property to reach stripper status.

"Tie-in" sales, in which New Oil was purchased at inflated prices to secure underpriced Old Oil, had beset the crude-price program since the beginning of Phase IV. In response, the Federal Energy Office ruled that the "artificially high 'current free market price' for 'new' oil constitutes an attempt to evade the price limitations ... applicable to crude oil."[93] Because it failed to set specific price standards, however, the ruling had little effect on the ongoing circumvention, which was fostered by growing discrepancies between controlled and uncontrolled oil throughout the EPAA period as shown in table 9.1.

Another ruling had particular importance for crude-oil production. On May 21, 1975, the FEA granted permanent stripper-well status to wells that qualified as stripper properties subsequent to December 31, 1972.[94] The stated rationale was to

Table 9.1
TWO-TIERED WELLHEAD PRICE REGULATION: DECEMBER 1973–JANUARY 1976

Date	Controlled Oil Price ($/bl)[a]	Percent	Uncontrolled Oil Price ($/bl)[b]	Percent
1973				
December	5.25	–	6.70	–
1974				
January	5.25	60	9.82	40
February	5.25	62	9.87	38
March	5.25	60	9.88	40
April	5.25	60	9.88	40
May	5.25	62	9.88	38
June	5.25	63	9.95	37
July	5.25	64	9.95	36
August	5.25	66	9.98	34
September	5.25	67	10.10	33
October	5.25	66	10.74	34
November	5.25	67	10.90	33
December	5.25	66	11.08	34

[89] 39 *Fed. Reg.* 44414 (December 24, 1974).
[90] 39 *Fed. Reg.* 44414 (December 24, 1974).
[91] 39 *Fed. Reg.* 44416 (December 24, 1974).
[92] 40 *Fed. Reg.* 40828 (September 4, 1975).
[93] 39 *Fed. Reg.* 17766 (May 20, 1974).
[94] 40 *Fed. Reg.* 22123 (May 21, 1975).

1975				
January	5.25	58	11.28	42
February	5.25	61	11.39	39
March	5.25	60	11.47	40
April	5.25	61	11.64	39
May	5.25	62	11.69	38
June	5.25	63	11.73	37
July	5.25	62	12.30	38
August	5.25	63	12.38	37
September	5.25	63	12.46	37
October	5.25	63	12.73	37
November	5.25	64	12.89	36
December	5.25	63	12.95	37
1976				
January	5.02	54	12.99	46

SOURCE: Federal Energy Administration, *Monthly Energy Review*, various issues.
[a]Old Oil.
[b]New, Released, and Stripper oil.

> ensure that, as to properties that qualified for the stripper well lease exemption in 1973, but which exceeded the 10 barrel per well per day level in 1974 through work-overs or other production stimulation techniques, the incentive to permit production again to decline naturally to stripper well levels will be removed, and further steps to maintain and increase production will be encouraged.[95]

The EPAA, due to expire on February 28, 1975, was extended six months to continue the existing network of price and allocation controls on crude oil and petroleum products.[96] Sentiment in Congress was strong that any rise in wellhead prices would translate into higher retail prices to worsen inflation and that a "windfall" from decontrol for producers was neither needed nor deserved.[97]

Debate over a second EPAA extension revealed sharp political divisions. President Gerald Ford, who replaced Nixon on August 9, forwarded oil decontrol with a windfall profit tax as the centerpiece of his energy policy. Congress favored continued controls, mandatory allocation, and mandatory conservation. Ford's plan, it was charged, would result in increased inflation and more unemployment in a fragile economy.[98]

§§

Throughout 1975, the White House and the FEA pushed phased decontrol at a skeptical Congress. After several delays, President Ford on April 30 instructed the FEA to prepare a bill to phase out price controls over a twenty-five-month period. On May 15, the House Commerce Committee killed the proposal. A second effort followed on July 14, this time extending the

[95] 40 *Fed. Reg.* 22123 (May 21, 1975). Rep. Bob Eckhardt (D-Tex.) referred to the permanent status of stripper wells, even if output rose above 10 barrels per day, as the "Gypsy Rose Lee rule, that is, once a stripper, always a stripper." *Stripper Oil Miscertification*, Hearing before the House Committee on Interstate and Foreign Commerce, 96th Cong., 2d sess. (Washington, DC: Government Printing Office, 1980), p. 1.

[96] Pub. L. 93-511, 88 Stat. 1608 (1974).

[97] Neil de Marchi, "The Ford Administration: Energy as a Political Good," in *Energy Policy in Perspective: Today's Problems, Yesterday's Solutions*, ed. Craufurd Goodwin (Washington, DC: Brookings Institution, 1981), p. 498.

[98] de Marchi, "The Ford Administration: Energy as a Political Good," pp. 482–93. This argument is critically examined in this chapter, pp. 510–12.

phaseout over thirty months, while setting a ceiling price of $13.50 per barrel on New Oil and Released Oil, which accounted for more than one-fourth of domestic output.[99] When this met opposition, a third plan was quickly drafted that increased the phaseout to thirty-nine months with the lion's share of price increases scheduled after the 1976 elections. The controlled price of $11.50 applied to all domestically produced oil—Old, New, Released, and Stripper.

Congress, particularly the House of Representatives laden with "Watergate freshmen," rejected the president's third and final compromise offer. President Ford retaliated on September 9 by vetoing an EPAA extension and was upheld by the Senate the next day. Technically, crude oil was decontrolled for all oil companies for the first time since August 1971.[100]

Concerned parties knew that oil was not decontrolled. Senators who made the margin of difference in sustaining Ford's veto voted on the understanding that they were supporting a thirty-nine-month phaseout, not immediate decontrol. The industry also knew that increasing prices to market levels would raise a furor and lead to retroactive rollbacks. Even before expiration, many oil companies embarked on a public-relations campaign to assure the public and lawmakers that price and allocation decisions would not noticeably change.[101]

On September 29, 1975, President Ford temporarily extended the EPAA to November 15.[102] As anticipated, the extension was retroactive to September 1, which forced some companies to refund money they had earned from price hikes in September.[103] The extension, followed by another for one month on November 14, was intended to give Congress time to devise a new bill palatable to the president.[104] Intense deliberations followed among the White House, the FEA, and Congress to reach a compromise between phased decontrol and interim price ceilings. This was accomplished in late 1975 with the far-reaching, complicated legislation discussed next.

Energy Policy and Conservation Act of 1975

On December 22, 1975, the Energy Policy and Conservation Act (EPCA), was signed into law after weeks of indecision by President Ford.[105] The highly interventionist bill represented a victory for Congress and a painful compromise for a president whose original program of phased decontrol was scarcely recognizable.[106]

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[99] de Marchi, "The Ford Administration: Energy as a Political Good," p. 500.

[100] In Phase III prior to SR-1, however, from January 11 until March 6, 1973, unregulated pricing technically existed.

[101] "Firms Move to Calm Oil-Pricing Fears," *OGJ*, September 1, 1975, p. 54. Mobil Oil chairman Rawleigh Warner criticized total deregulation for its potential impact on "America's fragile economy recovery." Other major companies and independent producers favored immediate decontrol or a short phaseout.

[102] Pub. L. 94-99, 89 Stat. 481 (1975).

[103] "FEA Urges Firms to Conform to Retroactive Price Rules," *OGJ*, October 20, 1975, p. 29. Shell and Cities Service, for example, equalized their crude prices by increasing Old-oil prices and reducing Exempt-oil prices. "Cities, Shell First to Adjust Postings to $10 Plus," *OGJ*, September 1, 1975, p. 54.

[104] Pub. L. 94-133, 89 Stat. 694 (1975).

[105] Pub. L. 94-163, 89 Stat. 871 (1975).

[106] Analysts interpreted Ford's decision to sign the bill after five weeks of indecision as a political maneuver to defeat upstart Ronald Reagan in the crucial New Hampshire Republican primary. See Neil de Marchi, "The Ford Administration: Energy as a Political Good," p. 507. Said William Simon, himself prone to compromise and regulatory advocacy in these years: "After long years of battling for a sensible energy policy, Ford caved in. Anxious for a quick political fix just before the New Hampshire and Florida primaries, he signed the bill. It may have got him a few votes in New Hampshire, but it lost him a great deal of moral support in his own party and was in part responsible for the conservative rebellion against him." Simon, *A Time for Truth* (New York: McGraw-Hill, 1978), p. 79.

With a stated purpose of increasing "the supply of fossil fuels in the United States through price incentives and production requirements," the act reestablished comprehensive price controls on the first sale of crude oil, broadly stipulated withdrawal rates from individual wells, and authorized imprisonment of persons who willfully violated the regulations. In addition, it closely regulated the other petroleum sectors, established a strategic petroleum reserve, and exhaustively detailed mandatory conservation measures for the general economy.[107] The act was the most interventionist piece of legislation in the peacetime history of the U.S. energy market, eclipsing the EPAA of 1973.

The act set "ceiling prices ... applicable to any first sale of crude oil produced in the United States, such that the resulting actual weighted average first sale price for all such crude oil during such calendar month and each of the 39 months thereafter shall not exceed a maximum of $7.66 per barrel."[108] The president was given authority to adjust crude prices toward this limit and to increase the composite price ceiling to encourage production and account for inflation.[109]

A special 3 percent "production incentive" could be awarded as long as it was within the 10 percent annual ceiling on discretionary increases. A higher cap required the approval of Congress. Increases were not allowed for Old Oil; they could apply only to newly established "Upper-tier Oil" (defined below), Stripper Oil (oil from wells historically producing 10 barrels or less per day excluding condensate), or crude produced in excess of a property's monthly average during 1972 or September through November 1975.[110]

Another provision of the 1975 law required government agencies to determine potentially enforceable production rates for individual oil and gas wells for standby implementation by the president.[111] For federal lands, the secretary of the interior was to calculate a MER, a temporary emergency production rate, and an above-MER rate capable of preserving total recoverability if maintained for less than ninety days.

For nonfederal properties (i.e., state or private lands), the respective state conservation agencies were to calculate the MER and temporary emergency production rate. If provable reservoir damage occurred from such action, property owners were allowed to bring suit against the government to recover damages.[112]

Stage I

Pursuant to the EPCA, the FEA restructured the Phase IV EPAA two-tiered price, effective February 1, 1976, to meet the $7.66 per barrel weighted average statutory ceiling for crude oil. This was accomplished by reclassifying exempt-category crude (New, Released, and Stripper) as "upper-tier" oil subject to a ceiling price and redesignating controlled oil as "lower-tier" oil. The existing composite price of $8.19 per barrel was derived by estimating 60 percent of lower-tier oil at $5.25 per barrel and 40 percent of upper-tier oil at $12.60 per barrel.

To achieve the legal limit of $7.66 per barrel, lower-tier oil remained at $5.25 per barrel (or more specifically, each property's May 15, 1973, price plus $1.35 per barrel as instructed by

[107] See chapter 17, pp. 1028–29, and chapter 27, pp. 1623–24, 1679, respectively.

[108] Pub. L. 94-163, 89 Stat. 871, at 942, § 401 (1975).

[109] If the actual weighted average price exceeded the statutory limit, a price rollback was required.

[110] The addition of 1975 as a choice for the base-period control level was designed to encourage output from declining properties. The 1975 option also had the advantage of eliminating any cumulative deficiency for producers attributable to the 1972 basis.

[111] Pub. L. 94-163, 89 Stat. 871, at 880, §106 (1975).

[112] Pub. L. 94-163, 89 Stat. 871, at 880–81.

the EPAA), and upper-tier oil was rolled back to approximately $11.28 per barrel (the September 30, 1975, price minus $1.32 per barrel).[113] Additions to upper-tier oil were subject to the cumulative-deficiency proviso beginning February 1, 1976. Existing deficiencies were canceled.[114]

Stage II

The second implementation stage involved the first adjustment to the composite price. Effective March 1, 1976, the full 3 percent production incentive was granted along with a 6.8 percent inflation adjustment.[115] The 9.8 percent increase, equally applied to lower-tier and upper-tier oil, was within the 10 percent yearly maximum prescribed by law. The FEA also announced further six-month adjustments, subject to revision, for the remainder of the thirty-nine-month period.[116]

Revisions would be necessary if errant predictions led to actual prices above or below the $7.66 composite. This was found to be the case when a June 1976 FEA study computed a $0.16 per barrel violation of the composite ceiling price during the first month of the program.[117] To correct the overage, Schedule 2 was issued on June 30 to keep crude prices at current (June 1976) levels through July and August.[118] Schedule 3, issued on August 31, again held lower-tier and upper-tier prices at June 1976 levels through November.[119]

Clearly, an output substitution of higher priced controlled oil for lower priced controlled oil was capturing the allowed 10 percent annual increase without any increase in the ceiling price per category. Part of this resulted from natural incentives; part resulted from a redefinition of the BPCL, effective July 1, 1976, to increase production incentive for lower-tier properties. This applied to properties that produced only lower-tier oil from February to July 1976 and properties that experienced declining production from 1972 to 1975. Operators could reduce their historic (1972 or 1975) BPCL by three-fourths of the decline. Increased lower-tier oil, consequently, would be reclassified as upper-tier; hence the rising composite price necessitated downward adjustments in price ceilings from projected levels published in Schedule 1, as

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[113] The arithmetic formula:

Existing Price	= Percent upper-tier (Price upper-tier) + Percent lower-tier (Price lower-tier)
	= .4 ($12.60) + .6 ($5.25)
$8.19	= $5.04 + $3.15
Legal Price	= .4 (x) + .6 ($5.25)
$7.66[a]	= .4x + $3.15
.4x	= $4.51
X	= $11.275

[a]EPCA defined

[114] For greater detail on Stage I, see James C. Langdon Jr., "Domestic Crude Oil Production—The FEAA Regulatory Framework," pp. 19–24.

[115] 41 *Fed. Reg.* 15566 (April 13, 1976).

[116] For a reprint of Schedule 1 adjustments through May 1979, see U.S. Senate Committee on Energy and Natural Resources, *Regulation of Domestic Crude Oil Prices*, 95th Cong., 1st sess. (Washington, DC: Government Printing Office, 1977), pp. 93–94.

[117] The computation was made by the FEA's new "Short Term Petroleum Forecasting Model," marking the entrance of direct econometric support in oil-price regulation. A decade before, econometrics was used by the FPC for natural-gas price regulation.

[118] 41 *Fed. Reg.* 27730 (July 6, 1976).

[119] 41 *Fed. Reg.* 37311 (September 3, 1976).

shown in table 9.2.

Table 9.2

PROJECTED VS. ACTUAL WELLHEAD-PRICE CHANGES: JUNE–NOVEMBER 1976

Month	Projected		Actual	
	Lower Tier: $3.90 plus	Upper Tier: $12.60 minus	Lower Tier: $3.90 plus	Upper Tier: $12.60 minus
June	$1.48	$1.05	$1.48	$1.05
July	1.51	0.97	1.48	1.05
August	1.54	0.90	1.48	1.05
September	1.58	0.83	1.48	1.05
October	1.61	0.76	1.48	1.05
November	1.64	0.69	1.48	1.05

SOURCE: *Regulation of Domestic Crude Oil Prices,* pp. 93–96.

The Schedule 1 price forecast was intended to reduce uncertainty for oil operators and investors and encourage greater production. Any credibility it had, however, was squelched by revised schedules that disallowed projected price increases. Producer sentiment was expressed by A. V. Jones, president of the Independent Petroleum Association of America: "This is a slam in the face to those who went out and searched for domestic oil with what they thought were assurances of certainty as to crude-oil pricing."[120]

Energy Conservation and Production Act of 1976

On August 14, 1976, the Energy Conservation and Production Act (ECPA) was passed, which amended the Emergency Petroleum Allocation Act of 1973 as amended by the EPCA of 1975.[121] Intended to "provide an incentive for domestic production," the law represented a further effort to fine-tune improvement in a deteriorating domestic-production picture.

Stripper Oil, defined as oil from wells producing no more than 10 barrels daily at MER levels for a consecutive twelve-month period subsequent to December 31, 1972, was decontrolled effective September 1, 1976. Three tiers of domestic oil now existed: lower, upper, and uncontrolled (stripper). The stripper price was to be included in the composite price subject to the $7.66 per barrel limitation, which meant prices of upper-tier oil and particularly lower-tier oil would be penalized.

A vicious circle developed. Analogous to controlled oil pushing up the price of uncontrolled (i.e., stripper and imported) oil, stripper price increases necessitated *lower* prices for lower-tier oil and upper-tier oil to maintain the legal composite price. These lower prices, in turn, sent more unfulfilled demand toward unregulated oil, which increased in price to begin the process anew. In any case, Stripper Oil once again was favored by government at the expense of lower cost oil.[122]

Another modification introduced by the ECPA removed the 3 percent production-incentive limitation, while retaining the 10 percent annual price ceiling. This allowed greater composite

[120] Quoted in "New Crude-Price Rollback Angers U.S. Producers," *OGJ*, March 7, 1977, p. 70.

[121] Pub. L. 94-385, 90 Stat. 1125 (1976).

[122] From 1930 until 1972, stripper oil benefited from state conservation law, which exempted such output from market-demand proration. With an exemption from price ceilings in the 1973 Trans-Alaskan Pipeline Authorization Act, and re-exemption in the 1976 ECPA, many high-cost stripper properties were saved from retirement. A study by Keplinger & Associates estimated that as of 1978, as many as 20 percent of the nation's 366,000 stripper wells were saved from retirement by post-1973 price-control exemptions. "Freed Prices Hike Stripper Output, Save Wells," *OGJ*, May 29, 1978, p. 39.

price increases than before if inflation was below 7 percent. This was intended to encourage production from high-cost recovery projects and low-quality (high-sulfur "sour" or low-gravity "heavy") reservoirs. The former required special rule changes to "provide additional price incentives for bona fide tertiary enhanced recovery techniques."[123] Price imbalances between crude grades led the FEA to make adjustments, effective October 1, 1976, for heavy Alaskan and heavy Californian crude oil.[124]

The composite-price limitation continued to prove troublesome after the rule changes took effect. Schedule 4, effective November 30, 1976, extended the lower-tier and upper-tier price freeze begun by Schedule 2 another month through December.[125] Schedule 5, effective January 1, 1977, lowered the price of upper-tier oil by $0.20 per barrel and kept lower-tier prices the same.[126]

Schedule 6, effective March 1, 1977, again reduced upper-tier prices by $0.45 per barrel and left lower-tier prices unchanged.[127] Controls were clearly tightening rather than loosening, contrary to the law's general intent to absorb inflation and provide production incentives. In February 1976, the first month of the EPCA, upper-tier prices were at $11.47 and lower-tier at $5.05 per barrel; in April 1977, upper-tier oil was below $11.00 and lower-tier was only $5.15 per barrel, a decrease when adjusted for inflation (table 9.3).

Table 9.3
THREE-TIERED WELLHEAD-PRICE REGULATION: FEBRUARY 1976–JUNE 1977

	Lower-Tier Oil		Upper-Tier Oil		Stripper Oil	
Date	Price ($/bl)	Percent	Price ($/bl)	Percent	Price ($/bl)	Percent
1976						
February	5.05	56	11.47	44	–	–
March	5.07	57	11.39	44	–	–
April	5.07	57	11.52	43	–	–
May	5.13	57	11.55	43	–	–
June	5.15	56	11.60	44	–	–
July	5.19	56	11.59	44	–	–
August	5.18	56	11.62	44	–	–
September	5.17	53	11.65	34	13.21	13
October	5.15	52	11.62	35	13.35	13
November	5.17	50	11.62	37	13.31	13
December	5.17	50	11.64	36	13.30	14
1977						
January	5.17	51	11.44	37	13.27	13

[123] Section 122 of the EPCA defined such techniques as "extraordinary and high cost enhancement technologies of a type associated with tertiary applications including, to the extent that such techniques would be uneconomical without additional price incentives, miscible fluid or gas injection, chemical flooding, steam flooding, microemulsion flooding, in situ combustion, cyclic steam injection, polymer flooding, and caustic flooding and variations of the same."

[124] The existing discount for crude with a gravity differential above 34 degrees API was 6.2 percent per degree, the May 15, 1973, average. This was reduced to $0.02 per degree above 34 degrees (but below 40 degrees) and $0.03 per degree below 34 degrees. *Regulation of Domestic Crude Oil Prices*, pp. 10–11, 21–22. API gravity, expressed in degrees, is the standard industry measure of density of petroleum liquids. The higher the value of API gravity, the less dense, and more valuable, the petroleum liquid.

[125] 41 *Fed. Reg.* 53333 (December 6, 1976).

[126] 42 *Fed. Reg.* 1456 (January 7, 1977).

[127] 42 *Fed. Reg.* 13013 (March 8, 1977).

February	5.18	50	11.39	37	13.32	13
March	5.15	49	11.03	37	13.31	14
April	5.15	49	10.97	37	13.28	14
May	5.18	48	10.98	37	13.26	14
June	5.16	49	10.92	37	13.28	14

SOURCE: U.S. Department of Energy, *Monthly Energy Review*, various issues.

Crude-oil price controls, noticed Edward Erickson et al., had become "a political phenomenon with a life of their own."[128] No fewer than fourteen price-schedule amendments would be forthcoming in the next twenty-six months, along with a variety of new tiers.[129] This was hardly the phaseout Ford originally desired.

A second era of ECPA multitiered pricing began when two new price-controlled categories of oil were established—Alaskan North Slope oil and Naval Petroleum Reserve oil. The number of price-controlled categories now stood at five. Alaskan North Slope oil, considered low cost, was priced just above lower-tier oil, while Naval Reserve oil, considered high cost, was priced between upper-tier oil and exempt Stripper Oil. Since the percentage of Naval Reserve oil was small in comparison with North Slope oil, the composite price was not noticeably changed. Table 9.4 summarizes price changes under the five-tiered program.

Table 9.4
FIVE-TIERED WELLHEAD-PRICE REGULATION: JULY 1977–MAY 1979

	Lower-Tier Oil		Upper-Tier Oil		Stripper Oil		North Slope Oil		Alaskan Reserve Oil	
Date	Price ($/bl)	Percent	Price ($/bl)	Percent	Price ($/bl)	Percent	Price ($/bl)	Percent	Price ($/bl)	Percent
1977										
July	5.16	46.8	11.00	36.6	13.31	13.3	6.84	2.6	12.21	0.7
August	5.18	43.3	10.93	36.7	13.95	13.3	6.91	5.8	12.29	0.9
September	5.20	42.8	11.20	34.1	14.01	13.1	6.98	9.1	12.33	0.9
October	5.23	42.2	11.42	34.6	14.01	13.0	6.66	9.1	12.38	1.1
November	5.24	41.4	11.62	34.7	13.98	13.0	5.73	9.8	12.40	1.1
December	5.25	40.4	11.76	34.6	13.98	13.0	5.73	10.9	12.36	1.0
1978										
January	5.28	41.7	11.78	34.2	13.89	12.7	5.30	10.2	12.38	1.2
February	5.29	40.8	11.81	34.4	13.90	13.7	5.68	9.9	12.46	1.2
March	5.34	39.2	11.87	34.1	13.97	14.0	5.00	11.8	12.60	.9
April	5.35	38.0	11.94	34.0	13.95	13.7	5.15	13.3	12.67	1.0
May	5.38	38.2	11.98	34.0	13.93	13.8	4.87	13.0	12.70	1.0
June	5.46	36.8	12.08	35.0	13.95	13.9	5.63	13.5	13.08	0.8
July	5.46	37.6	12.16	34.4	13.95	13.9	5.26	13.5	13.07	1.0
August	5.50	36.5	12.22	34.4	13.93	14.4	5.09	13.7	13.04	1.0
September	5.55	35.9	12.35	34.6	13.96	14.5	5.12	13.8	13.17	1.2
October	5.60	36.3	12.42	34.4	13.97	14.2	5.21	13.9	13.08	1.2
November	5.65	36.2	12.53	34.6	13.94	14.0	5.12	14.1	13.00	1.1
December	5.68	33.7	12.59	34.7	14.08	15.9	5.40	14.4	12.92	1.3
1979										

[128] Edward Erickson, William Peters, Robert Spann, and Paul Tese, "The Political Economy of Crude Oil Price Controls," *Natural Resources Journal* (October 1978): 791.

[129] William C. Lane Jr., *The Mandatory Petroleum Price and Allocation Regulations*, p. 108.

January	5.75	35.5	12.66	34.3	14.55	14.1	5.79	14.9	13.10	1.2
February	5.76	35.2	12.78	35.0	14.88	15.1	5.87	13.7	13.94	1.0
March	5.82	34.6	12.84	34.6	14.88	14.9	6.66	14.6	13.97	1.3
April	5.85	34.0	12.94	34.9	16.71	15.3	7.45	14.5	14.56	1.3
May	5.91	33.6	13.02	34.8	17.53	15.6	8.47	14.7	15.85	1.3

SOURCE: U.S. Department of Energy, *Monthly Energy Review,* various issues.

During this period, the energy policies of President Carter were being implemented. The Carter program was a further step toward national energy planning that continued the Energy Policy and Conservation Act, the Energy Conservation and Production Act, and the ill-fated $100 billion "Project Independence" proposal of the Ford administration. Carter, a constructivist through and through, brought the mentality of a trained engineer to bear on the problems of human action.[130]

After assembling a team of like-minded energy planners led by James Schlesinger, a Harvard-trained economist enamored with centralized decisionmaking, Carter in 1977 presented lawmakers a national energy plan distinguished by quantitative forecasts of energy supply and energy demand according to regulatory constraints.[131] Politics—questionnaires were mailed to 450,000 citizens soliciting their ideas on solving the crisis—and formal model building and predictive econometrics were the order of the day.[132]

Sober qualitative economic analysis, which invariably pointed to a market solution to energy problems initially created by nonmarket reliance, was no match for the constructivist impulse and political entrepreneurship of the president, Congress, and energy regulators. Some downstream industry segments were on board too.

Consonant with his centralist views on energy policy, President Carter created an executive-level Department of Energy (DOE), effective October 1, 1977.[133] The DOE replaced the Federal Energy Administration and assumed energy-related functions from other surviving agencies as well.[134] Crude-oil regulation was delegated to the newly formed Economic Regulatory Administration (ERA) within the DOE.

On November 9, 1978, Carter's National Energy Act became law.[135] Its five component statutes—the Natural Gas Policy Act, the Energy Tax Act, the National Energy Conservation

[130] See James Cochran, "Carter Energy Policy and the Ninety-fifth Congress," in *Energy Policy in Perspective,* p. 547.

[131] When Schlesinger first presented the highly constructivist plan, even Carter demurred about its complexity: "I am not satisfied with your approach. It is extremely complicated (I can't understand it).... A crucial element is simplicity. Even perfect equity can't be sold if Americans can't understand it. Their distrust is exacerbated by complexity." Jimmy Carter, *Keeping Faith: Memoirs of a President* (New York: Bantam Books, 1982), pp. 96–97. The simplicity Americans were accustomed to, unrealized by Carter, was the spontaneous workings of free-market forces. In the end, Carter would accept complexity. He stated, "The total package [of energy bills] was extremely complicated, but far-reaching in its beneficial effect on our nation" (p. 107).

[132] Other grandstand plays were Carter's characterization of the energy crisis as "the moral equivalent of war"—first suggested by Schlesinger—and his "fireside chat" television broadcasts urging self-sacrifice and noneconomic behavior to endure and solve the crisis.

[133] Pub. L. 95-91, 91 Stat. 565 (1977). The DOE was officially formed by Executive Order No. 12009. 42 *Fed. Reg.* 46267 (September 15, 1977).

[134] For administrative changes under DOE regulation, see Donald Craven, "New Dimensions in Federal Regulation of Crude Oil and Petroleum Products under the Department of Energy," *Proceedings of the Twenty-Ninth Annual Institute on Oil and Gas Law and Taxation* (New York: Matthew Bender, 1978), pp. 1–37.

[135] Pub. L. 95-617, 92 Stat. 3117 (1978).

Policy Act, the Public Utilities Regulatory Policy Act, and the Powerplant and Industrial Fuel Use Act—bypassed reform of crude-oil price regulation. That would be the next order of business.

Phased Decontrol: 1979–81

On April 5, 1979, President Carter, under ECPA authority, announced his intent to deregulate crude-oil prices from June 1, 1979, to September 30, 1981.[136] The plan was to convert lower-tier oil to upper-tier oil in the twenty-seven-month period, while removing upper-tier controls over twenty-one months from January 1, 1980, until September 30, 1981.[137]

The decontrol plan was supported by virtually all independent producers and all majors but one. Mobil, relatively crude-poor and anxious to drill, proposed a tradeoff of continued controls on existing oil for forgoing a windfall profit tax on undiscovered oil.[138] Relative competitive advantage continued to be a primary determinant of company policy.

On June 1, 1979, two new tiers of oil were established to join the existing five. Newly discovered oil, onshore oil produced from properties without output in 1978, and oil from Outer Continental Shelf properties leased after December 31, 1978, where no production previously existed, were exempt from price regulation.[139] Marginal crude oil was defined by output per well depth during calendar year 1978 (table 9.5).[140]

Table 9.5

CATEGORIES OF MARGINAL CRUDE OIL

Average Completion Depth (ft)	Barrels per day
2,000–3,999	20 or less
4,000–5,999	25 or less
6,000–7,999	30 or less
8,000–9,999	35 or less
Each additional 2,000 feet	5 additional barrels

SOURCE: 45 *Fed. Reg.* 47406 (July 14, 1980).

[136] Office of the White House Press Secretary, "Fact Sheet on the President's Program," April 5, 1979.

[137] 44 *Fed. Reg.* 25168 (April 27, 1979); and 44 *Fed. Reg.* 66186 (November 19, 1979).

[138] *Business Week*, May 21, 1979, pp. 32–33.

[139] 44 *Fed. Reg.* 25828 (May 2, 1979). Discernible output from a property in 1978, even test-well production, precluded "newly discovered oil" certification. See David Tolin, "The Phased Deregulation of Crude Oil," in *Petroleum Regulation Handbook*, ed. Joseph C. Bell (New York: Executive Enterprises Publications, 1980), pp. 45–46.

[140] 45 *Fed. Reg.* 47406 (July 14, 1980). The original definition of marginal crude was oil from properties producing 35 barrels per day or less at depths of 8,000 feet or more. This was revised and made retroactive to June 1, 1979, as a result of strong producer protest. The regulation was applicable to each property, with multiple wells averaged to determine the qualifying amount, if any.

The BPCL for such properties was set at 20 percent of 1978 output to allow operators to receive prices corresponding to 20 percent lower-tier and 80 percent upper-tier oil. Total decontrol (zero BPCL) was reset for April 1, 1980, from the original January 1, 1980, date.[141]

In addition to the creation of two new pricing tiers, several other steps were taken toward decontrol. Cumulative deficiencies were eliminated as of June 1, 1979. This allowed an estimated 9 percent of lower-tier oil to be reclassified as upper-tier oil for pricing purposes. Future deficiencies, restarted as of June 1, were relaxed to allow greater reclassifications of lower-tier oil as upper-tier oil.[142]

New options for recalculating a property's BPCL were allowed, in keeping with the policy directive to replace lower-tier oil with upper-tier oil. A cumulative BPCL reduction of 1.5 percent per month from June to December 1979, followed by a 3 percent per month reduction in 1980, was granted.[143]

A third new classification, also effective June 1, involved perhaps the most straightforward regulatory blunder of the incentive-pricing phase of crude-oil price regulation. Pursuant to the ECPA, a notice of proposed rulemaking was issued by the ERA on January 12, 1977, to apply price incentives to crude oil produced as a direct result of enhanced-recovery projects.[144] Seven months later a "Notice of Decision" was issued that detailed the form the final regulations, to be issued in the "near future," would take.[145]

> Projects existing on the effective date of the final regulations will not generally be entitled to receive the incentive.... In general, only those projects commenced after the effective date of the regulations, and after receipt of the required certifications, or expansions of pre-existing projects after the effective date of the regulations and after the receipt of the required certifications, will be eligible for the incentive.[146]

While entrepreneurs delayed tertiary investments to ensure qualification for incentive pricing, the "near future" rule would not appear until almost a year later.[147] The new rule was immediately lambasted by the *Oil & Gas Journal* for being "long on Utopian fine-tuning and short on basic economics."[148] Receiving a free-market price for *extra* production from tertiary methods instead of market prices for all production was scarcely adequate.

Furthermore, the requirement to prove need, in terms of both time and expense for the applicants, made the incentive illusory. Not surprisingly, there were no takers when the program began on September 1, 1978.[149] The first project was not certified until April 1979, and in June of the same year, a new tier, incremental tertiary, was created. Thus two years of inactivity on tertiary recovery resulted from an amendment designed to promote such

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[141] Executive Order 12209, 45 *Fed. Reg.* 26311 (April 18, 1980).

[142] See James Carroll III, "Department of Energy Crude Oil Producer Price Regulation: An Overview and an Update," *Natural Resources Lawyer* 12, no. 2 (1979): 333.

[143] For greater detail, see David Tolin, "The Phased Deregulation of Crude Oil," in *Petroleum Regulation Handbook,* pp. 41–42.

[144] 42 *Fed. Reg.* 2646 (January 12, 1977). This discussion is taken from William C. Lane Jr., *The Mandatory Petroleum Price and Allocation Regulations,* pp. 111–13.

[145] 42 *Fed. Reg.* 41572 (August 17, 1977).

[146] 42 *Fed. Reg.* 41572, at 41575 (August 17, 1977).

[147] 43 *Fed. Reg.* 33679 (August 1, 1978). Bona fide oil-recovery techniques capable of certification were in situ combustion, unconventional steam drive injection, miscible fluid displacement, and microemulsion flooding.

[148] *OGJ,* Editorials, August 21, 1978, p. 15.

[149] "ERA Has No Takers under Tertiary Price Regs," *OGJ,* August 28, 1978, p. 42.

production. Despite the new categorization, certification was so complex that few applications were made, and not until late in the program.[150]

From June through August 1979, eight price tiers for crude oil were in place (table 9.6).

Table 9.6
EIGHT-TIERED WELLHEAD-PRICE REGULATION: JUNE–AUGUST 1979

Month	Lower-Tier Oil		Upper-Tier Oil		Stripper Oil		Alaskan North Slope Oil		Alaskan Reserve Oil		Incremental Tertiary Oil		Newly Discovered Oil		Marginal Property Oil	
	Price (S/bl)	Per-cent	Price ($/bl)	Per-cent	Price ($/bl)	Per-cent	Price ($/bl)	Per-cent	Price ($/bl)	Per-cent	Price ($/bl)	Per-cent	Price ($/bl)	Per-cent	Price ($/bl)	Per cent
June	5.95	29.3	13.14	38.2	20.24	16.0	8.97	13.6	16.02	1.3	11.98	0.1	22.97	0.6	13.61	0.8
July	5.98	27.0	13.25	16.0	24.76	16.0	13.35	15.9	20.13	1.4	15.09	0.02	26.69	1.1	13.18	1.1
August	6.09	26.0	13.33	36.7	25.71	16.9	14.14	15.8	20.77	1.3	16.14	0.2	26.63	1.7	13.37	1.3

SOURCE: U.S. Department of Energy, *Monthly Energy Review,* various issues.

The next phase of oil decontrol established three more tiers of crude oil to bring the total to eleven. On August 17, 1979, price controls were removed from "heavy crude," oil with a weighted average gravity of not more than 16 degrees API gravity, calculated from the nearest month prior to July 1979.[151] This was changed to include all oil at or below 20 degrees API gravity effective December 21, 1979, to bring more high-cost crude under decontrol and incite greater output.[152] Based on this executive order, the DOE issued final rules to exempt heavy crude from price control on March 25, 1980.[153]

A second new pricing category, "tertiary incentive crude oil," allowed crude oil sold by an operator with an interest in tertiary-incentive property to be sold at market prices to generate "up-front" revenue to finance enhanced-recovery projects effective October 1, 1979.[154] Seventy-five percent of specified project costs could be recouped, up to a maximum of $20 million per project, from market prices beginning January 1, 1980.[155]

A third new tier was market-level new crude oil, called "other decontrolled oil." This category represented oil freed from price regulation under the phased-decontrol program, primarily upper-tier oil. The eleven tiers of price-controlled oil would continue for the rest of the regulated period (table 9.7).

[150] Duke Ligon, "Crude Oil Pricing: Current Regulations and the Shift to Decontrol," *Proceedings of the Thirty-First Annual Institute on Oil and Gas Law and Taxation* (New York: Matthew Bender, 1980), pp. 15, 19–20.

[151] Executive Order 12153, 44 *Fed. Reg.* 48949 (August 21, 1979).

[152] Executive Order 12186, 44 *Fed. Reg.* 76477 (December 27, 1979). This was clarified in an amendment issued January 16, 1980. 45 *Fed. Reg.* 3539 (January 18, 1980).

[153] 45 *Fed. Reg.* 21206 (April 1, 1980).

[154] For ten "self-certifiable" enhanced oil recovery projects qualifying for cost-recoupment pricing, see David Tolin, "The Phased Deregulation of Crude Oil," in *Petroleum Regulation Handbook,* p. 51.

[155] 44 *Fed. Reg.* 51148 (August 30, 1979). Effective March 1, 1980, Crude Oil Windfall Profit Tax obligations were excluded to maintain incentive. 45 *Fed. Reg.* 40106 (June 13, 1980). After decontrol, officials were embarrassed when dozens of producers continued to qualify for reimbursements for tertiary projects that were uneconomical under price controls.

Table 9.7

ELEVEN-TIERED WELLHEAD-PRICE REGULATION: SEPTEMBER 1979–JANUARY 1981 (dollars per barrel)

Date	Incremental Tertiary Oil	Newly Discovered Oil	Marginal Property Oil	Heavy Crude Oil	Other Decontrolled Oil	Tertiary Incentive Oil	Lower-Tier Oil	Upper-Tier Oil	Actual Stripper Oil	Alaskan Reserve Oil	Naval Reserve Oil	Domestic Average
1979 September	17.89	30.38	13.67	16.77	12.54	24.89	6.09	13.53	27.09	13.09	20.85	14.57
October	14.21	31.92	13.55	17.12	13.08	21.07	6.12	13.56	29.42	13.12	24.01	15.11
November	26.17	33.86	13.70	18.61	11.33	–	6.09	13.68	30.64	13.48	26.48	15.52
December	15.80	37.59	13.83	23.62	10.05	–	6.61	13.76	34.99	13.60	29.04	17.03
1980 January	31.14	39.04	14.01	26.43	33.37	28.18	6.24	13.85	36.02	13.77	28.94	17.86
February	26.33	38.68	13.90	25.70	33.11	36.47	6.37	14.03	36.14	13.77	34.96	18.81
March	29.82	38.97	14.07	25.55	32.91	39.00	6.35	13.99	36.26	13.77	34.67	19.34
April	34.94	38.67	14.12	25.57	33.03	37.52	6.37	14.18	36.54	14.07	33.81	20.29
May	34.46	39.07	14.21	25.42	32.97	34.60	6.47	14.29	36.11	14.36	34.16	21.01
June	33.72	38.93	14.37	25.87	32.39	30.29	6.51	14.42	35.53	14.14	34.00	21.53
July	21.87	38.72	14.37	25.63	32.81	30.34	6.55	14.57	36.26	14.26	33.27	22.26
August	33.39	37.82	14.65	25.49	30.80	33.48	6.60	14.60	35.71	14.38	32.96	22.63
September	27.75	35.95	14.83	25.45	30.57	31.53	6.66	14.79	33.94	14.51	32.45	22.59
October	29.79	35.77	14.77	25.30	30.22	30.68	6.78	14.91	33.93	14.64	32.68	23.23
November	32.74	35.77	14.87	25.05	30.13	30.51	6.79	14.92	34.42	14.53	31.40	23.92
December	30.78	36.61	15.05	26.06	31.85	33.03	6.84	15.10	34.88	15.02	29.93	25.80
1981 January	32.24	37.50	15.67	26.84	32.66	34.89	8.46	16.06	35.11	15.15	29.27	28.85

SOURCE: U.S. Department of Energy, *Monthly Energy Review,* June 1981, pp. 76–77.

In addition to converting lower-tier oil to upper-tier, upper-tier crude was incrementally deregulated beginning January 1, 1980. Market pricing was allowed each month for 4.6 percent of a property's previous month's upper-tier output.[156] This worked out to total decontrol in October 1981 when 100 percent of upper-tier oil, having consumed lower-tier oil, would become "Market-level New Crude Oil" joining unregulated Stripper Oil, Heavy Crude Oil, Newly Discovered Oil, and Tertiary-incentive crude.

Another relaxation of regulation was exemption relief granted by the FEA's Office of Hearings and Appeals to firms judged to be suffering "serious hardship" or "gross inequity" from regulation.[157] Over a five- to six-year period, an estimated 300 to 400 producers received certification adjustments from a lower priced tier to a higher priced tier to reverse unprofitability.[158]

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On January 28, 1981, eight months ahead of the schedule, President Reagan signed Executive Order 12287, which ended the decade-long experience with crude-oil price controls.[159] Intended to inaugurate a free-market approach to energy policy, the order would be

[156] For greater detail, see Michael Henke, "Enforcement, Exceptions, and FERC Review," in *Petroleum Regulation Handbook,* pp. 264–66.

[157] For greater detail, see Michael Henke, "Enforcement, Exceptions, and FERC Review," in *Petroleum Regulation Handbook,* pp. 264–66.

[158] U.S. Department of Energy, Memorandum to J. Erich Evered, August 3, 1981, p. 4. Copy in author's files.

[159] 46 *Fed. Reg.* 9909 (January 30, 1981). The executive order was upheld in Metzenbaum v. Edwards, 510 F. Supp. 609 (D.D.C. 1981). Authority to reimpose price controls pursuant to the EPAA expired October 1,

a highlight of Reagan's first term.[160] After an initial increase in prices of petroleum products, part of which was attributable to an OPEC price hike, domestic prices from wellhead to retail began a downward trend that gave consumers long-awaited relief that price controls never did.

By early 1982, prices for domestic crude had fallen below $30 per barrel from a decontrol high of around $34 per barrel, while import prices had fallen from as high as $39 per barrel to $35 per barrel. A year later, prices fell to 1979 levels and in 1983/84 to around $26 per barrel.

The political game was now reversed with government concern turning to falling prices. Diminished revenue from the windfall profit tax lowered federal budget projections; reduced severance taxes and royalty income hurt oil-producing states.

The revenue outlook of oil-exporting Third World countries, meanwhile, many of which received major loans from U.S. banks, was imperiled by the falling prices. Despite pronouncements to the contrary, many government entities were dependent on high oil prices and would feel the heat along with the upstream industry.

Wellhead Price Regulation in Retrospect

False Goals of Price Regulation

The mistaken purpose and distortive effects of price controls prior to the Arab embargo were unfortunate, but the continuation of controls through the crisis period proved disastrous. Ad hoc moralizing about "undeserved" producer profits and proved-reserve windfalls, buttressed with superficial, politically inspired rhetoric, replaced reasoned economic understanding and policy.

Popular fallacies abounded. One was the belief that crude-oil price increases drove up the prices of petroleum-related goods and services—just about everything—by increasing costs (the "cost-push" theory), and consequently, immediate or phased decontrol would exacerbate an inflation already at high levels.[161] Politicians busily calculated new inflation estimates whenever new ceiling prices were proposed.

The cost-push theory of inflation, and this particular application to oil prices, is fallacious. Economic theory teaches that any increase in relative prices (e.g., those of crude oil) cannot cause all prices to rise; other things unchanged, the prices of complements (e.g., motorized vehicles) fall, while those of substitutes (e.g., unregulated natural gas, coal) rise.[162]

The general price explosion accompanying that of crude oil, contrary to popular opinion, was primarily the result of monetary inflation by the Federal Reserve that prevented offset (oil-complement) prices from countering the rise of oil prices and oil-substitute prices. This explains why Japan and West Germany, totally dependent on OPEC imports and experiencing

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1981.

[160] For a discussion of Reagan's first-term energy policies, see chapter 30, pp. 1861–64.

[161] The cost-push view was stated by economist Paul Samuelson: "Decontrolling oil and trying to promote U.S. independence from imports are bound to increase the rate of inflation.... Since wage rates tend to rise when consumer prices rise, it is to be feared that there will result a still further increase in costs and prices. And all this will be further aggravated by induced increases in airline costs and fares, and rises in prices of goods whose production depends on energy and which themselves set raw-material costs for production of other goods. Moreover, these days there is not only a pass-through of higher costs but also signs of a markup on such addons." Paul Samuelson, "Oil Economics," *Newsweek*, September 29, 1975, p. 74.

[162] Seen another way, if the price of good A rises and the consumer continues to buy it as before, income and other things constant, then he has less money (less demand) for goods B through Z. Therefore, the prices of B through Z tend to fall. General prices can only rise if less production resulted from the relative price increase. But the gross national product did not fall by nearly the amount necessary to explain the large inflation in the 1973–81 period.

greater average increases in oil prices than the United States, had *lower* inflation rates in the 1979–80 period. Slower monetary growth in these countries explains the apparent anomaly.[163] Rising oil prices were "inflationary" only to the extent the general output of the economy was directly reduced or inflationary expectations were increased.

Adherents of cost-push inflation assumed that price ceilings on domestic crude could lower refinery-input prices to restrain petroleum prices to end users. Lower oil-product prices, furthermore, would restrain energy prices in general. However, domestic controls pushed world crude prices to levels that were *higher* than they would have been if controls had not existed, and once domestic price exemptions were granted, these prices too were pushed artificially high. The refinery-entitlements program, discussed in chapter 20, was notorious for pushing prices of imported oil higher.

All considered, weighted average crude prices were not significantly lower with controls than without controls (not to mention the high-price effect of reduced production caused by regulation). By the control advocates' own criteria, therefore, "restraining" inflation with domestic price restrictions increased inflation by reducing domestic supply and placing upward pressure on exempt and foreign crude.

Not only were prices of exempt crude higher than an unregulated market would have supported, refiner and retail petroleum prices were higher than advocates of price regulation believed. Because of price controls, a middleman explosion of *crude oil resellers* occurred that captured part of the economic rent denied by law to producers. After the crude was refined into products, more middlemen, *product resellers*, bid product prices toward market levels.[164] In fact, legislators would complain of "de facto decontrol" as a result of reseller activity.[165]

When certain oil products became decontrolled, producers began to enter into agreements with refiners to distill price-controlled crude into uncontrolled product for the producer to sell

[163] High monetary growth in major industrial countries, lagged relationships between money growth and price increases, expectations, and methodological and data-collection errors prevent clear illustration of the theoretical point that inflation is always a monetary phenomenon, particularly with the 1974 oil-price experience. The following data for 1972 through 1980, particularly from 1979 to 1980, are nonetheless suggestive.

	Japan		West Germany		United States	
Year	Inflation Rate	Monetary Growth	Inflation Rate	Monetary Growth	Inflation Rate	Monetary Growth
1972	4.5	22.1	5.6	13.7	3.3	7.3
1973	11.7	26.1	6.9	5.0	6.3	6.8
1974	24.4	13.1	7.0	6.1	10.9	4.4
1975	11.8	10.3	6.0	14.1	9.2	4.5
1976	9.3	14.2	4.3	10.0	5.8	5.1
1977	8.0	7.0	3.7	8.1	6.5	7.2
1978	3.8	10.8	2.7	13.5	7.5	7.3
1979	3.6	9.9	4.1	7.2	11.3	7.6
1980	8.0	0.8	5.5	2.4	13.5	8.6
1981	4.9	3.7	5.9	0.9	10.4	5.2
1982	2.7	7.1	5.3	3.2	6.2	4.8

SOURCE: International Monetary Fund, *International Financial Statistics Yearbook, 1983* (Washington, DC: IMF, 1984) pp. 460–66.

[164] See chapter 12, pp. 691–92.

[165] *The Case of the Billion Dollar Stripper,* Report of the House Committee on Interstate and Foreign Commerce, 96th Cong., 2d sess. (Washington, DC: Government Printing Office, 1980), p. 5.

at market prices.[166] So even if some domestic crude was attractively priced at the wellhead by law, this did not necessarily mean that refinery input or wholesale and retail product was similarly priced.

Another argument for wellhead controls was that an unadulterated wealth transfer to the petroleum sector from major increases in oil prices would cause economic dislocation and macroeconomic instability.[167] To alleviate destabilizing wealth effects, it was argued, prices should be restrained and other measures implemented, such as a neutralizing tax transfer.

This argument fails to distinguish between market adjustment and an aggregate-demand problem, which it is not.[168] Many oil-related firms benefit and expand, but petroleum-consuming firms must absorb higher costs, contract, or experience both. This microeconomic firm-by-firm phenomenon driven by relative price changes can only be postponed or alleviated by falsifying economic reality. Such intervention does not correct the transition problem but misallocates resources and interferes with consumer service under changed conditions.

The misconception of the desirability (and ability) of price controls to restrain crude-oil and petroleum-product prices, salted with moralistic overtones, made the well-known case for a continuation of crude-price ceilings. As stated by President Carter in his 1977 National Energy Plan:

> The fourfold increase in world oil prices in 1973–74 and the policies of the oil exporting countries should not be permitted to create unjustified profits for domestic producers at consumer's expense. By raising the world price of oil, the oil-exporting countries have increased the value of American oil in existing wells. That increase in value has not resulted from free market forces or from any risk-taking by U.S. producers. *National energy policy should capture the increase in oil value for the American people*.[169]

These words clearly indicate a philosophical bent toward regulation. Increased profits and enhanced capital values of oil properties were "unjustified" because exogenous events were responsible. But the same exogenous circumstances—the wealth of foreign oil deposits—had depressed the domestic-producer market for decades prior to 1973. Yet this is no better reason for government subsidization than it is an argument for penalization under opposite conditions.

As a result of the nationalization of the Arabian American Oil Company (Aramco), the world oil situation radically changed. Carter's denial of this new reality and his anti-oil arguments were little more than political opportunism predicated on envy, a less than admirable trait under any circumstances but a destructive one upon which to predicate national energy policy. But with a scapegoat, constructivism could replace the spontaneous resolution of energy problems that oil as a free-market good, rather than a political good, could have achieved.

In his memoirs, Carter, while admitting that price controls had the threefold negative effect of inciting overconsumption, underproduction, and underdevelopment of alternative fuel

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[166] See "Produce-Refiner Process Deals Draw DOE Probe," *OGJ*, January 14, 1980, p. 50; and 45 *Fed. Reg.* 3060 (January 16, 1980).

[167] For a 1980 restatement of this neo-Keynesian argument, see George Horwich, "Government Contingency Planning for Petroleum-Supply Interruptions: A Macroperspective," in *Policies for Coping with Oil-Supply Disruptions*, ed. George Horwich and Edward J. Mitchell (Washington, DC: American Enterprise Institute, 1982), pp. 33–65.

[168] See chapter 17, pp. 1043–47, for further analysis of this point.

[169] Executive Office of the President, Energy Policy and Planning, *National Energy Plan* (Washington, DC: Government Printing Office, 1977), p. xi. Although primarily an argument for the windfall profit tax, the quotation applies equally to price restraints to "capture" lower prices for consumers.

sources, justified price regulation by saying that "there was no free market or effective competitive forces relating to world oil supplies and prices."[170] While OPEC was a cartel of government monopolies, it still faced competition from the formidable U.S. petroleum industry. But because U.S. industry was *regulated*, which negated market processes, competition to OPEC was mitigated, and Carter's analysis was self-fulfilling, if incorrect.

Carter's reason for regulation was not an ex-ante rationale but an ex-post explanation of how OPEC dictated events in the 1970s. The absence of a "free market or effective competition" called for repeal of existing domestic government intervention—from longstanding state wellhead regulation to federal-land policy—not a new layer of price and allocation controls and taxes to counter OPEC.

Waste and Prosecution from the "Property" Definition

Pervasive regulation in market situations is never a scientific endeavor above dispute. There are always gray areas and self-interested interpretation. "Nonwillful" violations occur as do willful violations of relatively clear regulatory instruction. This was the case with regulated wellhead prices under the EPAA, EPCA, and ECPA.

Property Issues. The definition of property, around which crude-oil regulation revolved after Phase IV, was a crucial concept. Maximum crude prices depended not so much on purchaser valuation in a free market based as when the oil was extracted from a particular *property.*

The definition of property has been identified as "the cornerstone of the regulatory program controlling the first sale price of crude oil and producer income."[171] Interpretation of the property definition by producers and regulators encouraged not only noneconomic output decisions but voluminous litigation involving legal prices and alleged overcharges.

Property was originally defined by regulators as "the right which arises from a lease or from a fee interest to produce domestic crude oil."[172] This created difficulty for an industry that had come to recognize the reservoir, not each separately owned lease interest, as the fundamental economic unit. As attorney David Beck explained, this definition entailed "the redetermination of nearly every oil property in the nation and ... required oil producers to keep two sets of accounting on a property-by-property basis—one, the traditional property system for financial accounting, tax, and local regulatory purposes, and the other a new and different system for [federal regulatory purposes]."[173]

Regulators' concern with the lease definition of property arose from the incentive created to "gerrymander" leaseholds by shutting in certain wells to increase production of New Oil and Released Oil from remaining wells.[174] FEA Ruling 1975–15, effective September 1975, clarified the original August 1973 ruling by requiring that the BPCL for post-1972 unit

[170] Jimmy Carter, *Keeping Faith,* pp. 94, 108.

[171] General Accounting Office, *Department of Energy Needs to Resolve Billions in Illegal Oil Pricing Violations* (Washington, DC: Government Printing Office, 1980), p. 29. Jim Langdon likened the computation of legal prices without a definition of property to a tax accountant's having all the relevant information for a group of taxpayers but not knowing how many separate tax cases exist and which return is which. Langdon, "Domestic Crude Oil Production—The FEAA Regulatory Framework," p. 27.

[172] 38 *Fed. Reg.* 22536, at 22538 (August 22, 1973). For certain exceptions involving large or noncontiguous tracts, as well as partial unitization and separate tax or royalty accounting, see Randolph McManus, "Domestic Crude Oil Price Controls," in *Petroleum Regulation Handbook,* pp. 24–25.

[173] David Beck, "Department of Energy Audit Issues," *Proceedings of the Thirtieth Annual Institute on Oil and Gas Law and Taxation* (New York: Matthew Bender, 1979), p. 5.

[174] See Pennzoil Co. v. United States Department of Energy, 680 F.2d 156 (Temp. Emer. Ct. App. 1982).

agreements be calculated on a field-wide basis.[175] If unitization was artificially encouraged before, now it was artificially discouraged, reminiscent of earlier intervention of a different kind.[176]

Owners of stripper wells, which enjoyed preferential prices, did not desire to enter a unit plan even if production rose because a redefinition to a lower-priced tier meant less revenue in many cases. Similarly, the owner of a well with a high percentage of New Oil would balk if unitization raised the BPCL to reclassify higher priced oil in a lower price category.[177]

Amendments in February 1976 allowed the lease basis for post-January 1976 wells until enhanced recovery commenced or a significant change in production (generally, secondary unitization) resulted from unitization.[178] Another change allowed the BPCL to be calculated on a 1975 basis instead of a 1972 basis *or* on a twelve-month production average preceding a unit BPCL (i.e., when enhanced recovery or a major change in production occurred).[179]

Unitization was now unambiguously encouraged.[180] Unit agreements made prior to February 1976, however, especially those made after 1972, were in a precarious position when it came to calculating BPCL on a lease basis, as discussed below.

The 1973–76 period was marked by regulatory confusion, hindering secondary unitization that was necessary to preserve or increase production from historic sources. Remarked William Lane, "Unitization projects were often delayed or postponed indefinitely because of the complexity and uncertainty regarding how much production from the unitized tract would qualify for treatment as upper-tier crude."[181] Regulators themselves were not sure of their own regulations. FEA deputy administrator John Hill testified before Congress, "It was not clear throughout that period [1973–76] exactly what the [property] regulation meant; it was not even clear to the agency itself."[182]

Not only unitization but production in general was hampered by the property-as-lease definition. If a lease property contained a shallow producing formation with declining output and a deeper untapped reservoir, the operator might not qualify for upper-tier prices because of a cumulative deficiency or a BPCL calculation on the property. The deeper formation in such cases would not be developed.[183]

If the reservoir rather than the lease had been defined as property, deeper production would have qualified for upper-tier prices and become economical to deplete. But by stringently defining property without regard to the reservoir as the natural economic unit, price regulation had negative consequences that only oil-importing interests could applaud.

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[175] 40 *Fed. Reg.* 40832 (September 4, 1975).

[176] See chapter 3, pp. 116–28, and chapter 4, pp. 205–11.

[177] 41 *Fed. Reg.* 1570–71 (January 8, 1976). Exxon executive M. A. Wright recognized the problem in 1973 when he complained to Cost of Living Council director John Dunlop that unitization could "substantially extend the producing life of older fields without producing 'new' oil under the Phase IV rules." Quoted in *United States of America* v. *Exxon Corporation*, 561 F. Supp. (D.D.C. 1983).

[178] 41 *Fed. Reg.* 4937 (February 3, 1976).

[179] 41 *Fed. Reg.* 4938 (February 3, 1976).

[180] 42 *Fed. Reg.* 4409 (January 25, 1977).

[181] William C. Lane Jr., *The Mandatory Petroleum Price and Allocation Regulations: A History and Analysis*, pp. 110–11.

[182] Quoted in Randolph McManus, "Domestic Crude Oil Price Controls," p. 22. Also see 41 *Fed. Reg.* 36172, at 36174 (August 26, 1976).

[183] 40 *Fed. Reg.* 40832 (September 4, 1975). Also see William C. Lane Jr., *The Mandatory Petroleum Price and Allocation Regulations: A History and Analysis*, pp. 109–10.

Effective September 1, 1976, producers were allowed to identify the reservoir, as long as "separate and distinct," as the property unit for determining crude tiers and legal prices.[184] This answered the question of whether vertical reservoirs, noncontiguous oil finds on the same lease, were one property or several. Producers favored separate treatment of vertical reservoirs, but the pre-September 1976 separation, similar to pre-February 1976 unitization using the lease-by-lease BPCL, was highly suspect under the law.[185]

Enforcement and Litigation. Enforcement of first-sale legal maximum pricing, essential to the government's policy of keeping prices below world levels for downstream cost-plus pricing, got off to a slow start. A General Accounting Office study in late 1974 revealed that little audit work had been performed to ensure compliance and recommended immediate action.[186]

Belated enforcement coincided with the Project Manipulator (soon renamed Project Producer) report released by the FEA's Office of Compliance and Enforcement. Of an estimated 19,000 producers, 125 with the largest reported increases in New Oil from September 1973 through October 1974 were targeted for audits. In early 1975, another 1,000 independent producers were added for review. By August 1975, approximately 200 investigations were completed, which resulted in 36 consent agreements with refunds of $3.2 million and penalties of $115,000. Fifty notices of probable violation were completed or being prepared with more than $11 million was at issue.[187] A typical violation was the improper computation of oil categories resulting in overestimated quantities of New Oil or Stripper Oil.

A second General Accounting Office study released October 2, 1975, described these developments and made two major criticisms. One was inequitable procedures and penalties assessed by different regional enforcement offices. The other was exclusive focus on independents rather than major producers that accounted for 70 percent of U.S. output.[188]

Audits and prosecution of the majors would begin in earnest after 1975 and would culminate in more than $3 billion in alleged overcharges in the 1978–81 period. The pendulum had swung the other way; independent producers became a low priority. In May 1984, ERA administrator Rayburn Hanzlik estimated restitution for alleged overcharges at between 10¢ and 15¢ on the dollar. A General Accounting Office report, prepared at the request of Rep. John Dingell (D-Mich.), a perennial critic of major oil companies, concluded in the same month that inadequate resources to expediently and fairly resolve litigation continued to be a problem.[189]

The two largest wellhead disputes are paradigmatic of the many cases involving nonwillful "violations." The *Texaco* case involved separate treatment of vertical reservoirs to maximize higher-priced oil categories between September 1973 and March 1979. Texaco interpreted property as the reservoir rather than the lease. This decision was in accordance with Louisiana conservation regulations, which required unitization, under certain conditions, according to separate reservoirs. FEA first questioned Texaco's practice in late 1975, and on January 25, 1978, a notice of probable violation was issued followed by a proposed remedial order on May

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[184] 41 *Fed. Reg.* 36184 (August 26, 1976). Also see 42 *Fed. Reg.* 4409 (January 25, 1977).

[185] 42 *Fed. Reg.* 4411 (January 25, 1977).

[186] General Accounting Office, *Problems in the Federal Energy Administration's Compliance and Enforcement Effort* (Washington, DC: Government Printing Office, December 6, 1974).

[187] General Accounting Office, *Federal Energy Administration's Efforts to Audit Domestic Crude Oil Producers* (Washington, DC: Government Printing Office, October 2, 1975), p. 6.

[188] General Accounting Office, *Federal Energy Administration's Efforts to Audit Domestic Crude Oil Producers*, pp. 1–2, 7–8.

[189] General Accounting Office, *Improvement Needed in the DOE Petroleum Pricing and Allocation Compliance Program* (Washington, DC Government Printing Office, April 8, 1984).

1, 1979. In federal district court, Judge Walter Stapleton on May 6, 1980, decided against Texaco on grounds that the production in question predated a change in the law effective September 1, 1976, which made the reservoir rather than the lease area the property unit.[190]

The *Exxon* case concerned a secondary unitization plan for the Hawkins field, one of the largest in the United States, where lease-by-lease accounting was retained for crude-tier (maximum-price) determination.[191] As a result of not calculating the BPCL on a unit basis, 80 percent more New Oil, Released Oil, and Stripper Oil was produced in place of Old Oil without a change in current output. This was possible through well consolidations whereby remaining wells produced more oil: stripper wells produced more stripper oil, and regular wells produced more New or Upper-tier oil.

Secondary recovery through gas injection commenced on January 1, 1975. In the same year, the FEA defined a gray area by requiring unit operations to use a unit BPCL to avoid "gerrymandering." An amendment in February 1976 allowed the lease-by-lease property definition but only prospectively.[192] Prior units, including Hawkins, could not use that definition, and in early 1978, a notice of probable violation was issued, followed by a proposed remedial order six months later. In federal court, Judge Thomas Flannery sided with the government and approved payment of $1.636 billion in overcharges and interest to state treasuries for improperly certified oil between January 1, 1975, and the last day of controls, January 27, 1981.[193]

Of the various regulatory issues in *Exxon,* including ambiguous and retroactive government positions in the case, one stood out: decreasing production by millions of barrels as a result of not unitizing (as would have been the case if lease-by-lease accounting had been prohibited) did not violate the EPAA goal of increased production because another goal—price restraint—was satisfied. Exxon's action, the court concluded, illegally "increased the average cost of crude oil of all refiners," which had to be rectified, albeit indirectly, by restitution.[194] The court, however, made a speculative assumption: that lower wellhead prices would have filtered through to final consumers instead of being largely dissipated within the industry nexus. As chapter 12 will substantiate, large quantities of old and lower-tier oil were miscertified as higher price categories or were price-inflated within the same category by middlemen's activity.

As of 1984, federal crude-oil overcharge suits against major companies totaled nearly $3 billion, as seen in table 9.8.

Table 9.8
CRUDE-OIL OVERCHARGE LITIGATION
(thousands of dollars)

Firm	Date of Action	Alleged Overcharge	Firm	Date of Action	Alleged Overcharge
Texaco	05/01/79	888,329	Conoco	06/09/81	23,868
Exxon	06/08/78	685,152	Sohio	05/01/79	16,969
Gulf	05/01/79	577,959	Mobil	08/08/79	13,746

[190] Texaco Inc. v. Department of Energy, 490 F. Supp. 874 (D. Del. 1980).

[191] Louisiana v. Department of Energy, 519 F. Supp. 351 (W.D. La. 1981); aff'd 390 F.2d 180 (Temp. Emer. Ct. App. 1982); cert. denied, 460 U. S..1069 (1983).

[192] 41 *Fed. Reg.* 4941 (February 3, 1976). The key phrase "significant alteration in producing patterns" was ambiguous and a source of much dispute.

[193] United States v. Exxon Corp., 561 F. Supp. 816 (D.D.C. 1983).

[194] United States v. Exxon Corp., 561 F. Supp. 816, at 852.

Shell	11/07/79	173,973	Exxon	11/07/79	12,424
Sun	11/07/79	104,526	Hess	11/07/79	12,264
Chevron	05/01/79	101,618	Cities		
Exxon	12/27/77	70,814	Service	06/14/78	7,860
Conoco	11/07/79	61,911	Exxon	07/02/81	5,691
Getty	06/27/78	46,958	Exxon	01/06/78	3,348
ARCO	05/01/79	42,024	Texaco	12/14/79	2,000
Murphy	01/28/81	39,300	Champlin	03/18/81	1,317
Marathon	05/01/79	29,064	Tesoro	03/19/81	964
Amoco	05/01/79	24,140	Fina	01/07/81	758
Total					$2,946,977

SOURCE: U.S. Department of Energy, Office of General Counsel, "Program Status Report," Internal report, 1981.
NOTE: Smaller settlements with independents totaling more than $35 million as of mid-1982 are listed in the *Houston Chronicle,* September 5, 1982, p. 8–4.

In 1980, an involved attorney remarked that the major cause of producer litigation was "the persistent failure of the government to interpret the petroleum regulations in a timely fashion."[195] In addition to creating much of the problem—indeed, *all* of the problem from the viewpoint of a deregulated market—the government itself was guilty of many of the alleged transgressions of private firms.

Production from federal lands, supervised by the Department of the Interior, was linked to more than $1 billion in overcharges attributable to illegitimate tier classification, illegal cost pass-throughs, and errant record keeping. Many refiners sued Interior for overcharging, and several dozen settlements were reached.[196] The DOE, however, declined to sue the Department of the Interior because of the embarrassing cast of characters involved, including Donald Hodel, who was second in charge at Interior during the violation heyday and was now the secretary of energy. Failure to prosecute guilty federal parties represents a double standard, partial grounds for terminating litigation and settlements altogether.[197]

The Statistical Record

Having unmasked the mistaken purpose and questionable value judgments behind crude-price controls, as well as the problematic nature of the regulatory effort from a legal-economic standpoint, a statistical examination of the 1970–84 era can be made to substantiate the failure of government intervention intended to restrain oil prices and imports of "artificially priced" oil. Three periods are identified in table 9.9: precontrol, control, and postcontrol.

The precontrol period was uneventful. The relatively high cost of U.S. extraction, partly the result of state conservation regulation and partly the result of inherent reservoir characteristics, made foreign production increasingly competitive with domestic output despite the locational advantages of the latter and federal protectionist legislation. Adjusted for inflation, crude prices were declining in the precontrol period as they had been in previous

[195] Paul Mode, "Judicial Review of Petroleum Regulations and Orders," in *Petroleum Regulation Handbook,* p. 286.

[196] *Wall Street Journal,* June 13, 1984, p. 27.

[197] As of 1984, overcharge settlement money remained unallocated. The Office of Hearings and Appeals began evidentiary proceedings in August 1984 to determine which first purchasers of crude were overcharged. More than $1 billion is in a stripper-well escrow fund, which has attracted many potential claimants armed with legal talent and economic consultants.

decades. Another reason for stagnant domestic oil production was price controls on interstate flows of natural gas that had existed since 1954 (and earlier with some interstate dedications). Because oil and gas frequently are produced together, disincentives for gas production also affected crude-oil production.[198]

Table 9.9
SUMMARY OF DOMESTIC AND IMPORTED CRUDE OIL: 1970–84

	U.S. Crude Output		Crude Imports	
	(000 bl)/day	Price ($/bl)	(000 bl/day)	Price ($/bl)
		I. Precontrol Era		
1970				
January	9,794	3.18	1,413	1.80
February	9,240	3.18	1,468	1.80
March	9,508	3.18	1,495	1.80
April	9,591	3.18	1,171	1.80
May	9,523	3.18	1,209	1.80
June	9,359	3.18	1,373	1.80
July	9,201	3.14	1,260	1.80
August	9,560	3.14	1,178	1.80
September	9,853	3.14	1,344	1.80
October	10,013	3.14	1,190	1.80
November	10,044	3.14	1,261	1.80
December	9,944	3.37	1,538	1.80
1971				
January	9,977	3.38	1,122	1.80
February	9,393	3.38	1,345	2.09
March	9,768	3.38	1,395	2.18
April	9,769	3.38	1,507	2.18
May	9,645	3.39	1,501	2.18
June	9,604	3.39	1,678	2.28
July	9,457	3.40	1,826	2.28
		II. Price-Control Era Phase I		
August	9,411	3.40	1,895	2.28
September	9,135	3.40	1,900	2.28
October	9,162	3.40	1,923	2.28
		Phase II		
November	9,139	3.40	1,985	2.28
December	9,100	3.40	2,128	2.28
1972				
January	9,418	3.36	2,046	2.35
February	9,336	3.36	2,081	2.48

[198] Only below 15,000 feet can it be reasonably certain that crude oil will not be found with natural gas. Natural-gas price regulation that affected the petroleum situation was detailed in the previous chapter.

March	9,462	3.37	2,067	2.48
April	9,513	3.37	2,004	2.48
May	9,614	3.38	2,160	2.48
June	9,522	3.39	2,085	2.48
July	9,496	3.39	2,182	2.48
August	9,483	3.40	2,112	2.48
September	9,508	3.40	2,364	2.48
October	9,482	3.40	2,516	2.48
November	9,426	3.40	2,299	2.48
December	9,335	3.40	2,667	2.48
			Phase III	
1973				
January	8,485	3.54	2,732	2.59
February	9,050	3.54	2,774	2.59
March	9,175	3.55	3,162	2.59
April	9,233	3.62	3,049	2.74
May	9,303	3.77	3,215	2.74
			Phase III	
June	9,209	3.87	3,220	2.90
July	9,195	3.88	3,501	2.96
			Phase IV	
August	9,161	3.88	3,593	3.07
September	9,077	4.11	3,471	3.07
October	9,172	4.11	3,740	3.06
November	9,144	4.30	3,452	5.18
		EPAA		
December	9,041	4.51	2,891	5.04
1974				
January	8,934	6.95	2,382	9.59
February	9,142	6.87	2,248	12.45
March	8,965	6.77	2,462	12.73
April	8,954	6.77	3,267	12.72
May	8,911	6.87	3,908	13.02
June	8,780	6.85	3,925	13.06
July	8,780	6.80	4,091	12.75
August	8,699	6.71	3,924	12.68
September	8,443	6.70	3,797	12.53
October	8,611	6.97	3,810	12.44
November	8,569	6.97	3,958	12.53
December	8,527	7.09	3,869	12.82
1975				
January	8,455	7.61	4,029	12.77
February	8,591	7.47	3,828	13.05
March	8,493	7.57	3,656	13.28
April	8,457	7.55	3,378	13.26
May	8,379	7.52	3,486	13.27
June	8,421	7.49	3,905	14.15
July	8,336	7.75	4,193	14.03

August	8,249	7.73	4,581	14.25
September	8,280	7.75	4,689	14.04
October	8,324	7.83	4,389	14.66
November	8,278	7.80	4,623	15.04
December	8,254	7.93	4,476	14.81
			EPCA	
1976				
January	8,232	8.63	4,594	13.27
February	8,231	7.87	4,208	13.26
March	8,232	7.79	4,738	13.51
April	8,077	7.86	4,790	13.39
May	8,125	7.89	4,669	13.41
June	8,094	7.99	5,628	13.48
July	8,127	8.04	5,792	13.51
August	8,111	8.03	5,556	13.58
			ECPA	
September	8,150	8.39	5,875	13.47
October	8,063	8.46	5,689	12.38
November	8,080	8.62	5,946	12.38
December	8,061	8.62	5,925	12.38
1977				
January	7,854	8.50	6,281	13.00
February	8,139	8.57	6,659	13.00
March	8,090	8.45	6,699	13.00
April	8,145	8.40	6,821	13.00
May	8,075	8.49	6,818	13.00
June	8,102	8.44	7,065	13.00
July	8,105	8.48	7,068	13.66
August	8,307	8.62	6,395	13.66
September	8,480	8.63	6,429	13.66
October	8,573	8.72	6,409	13.66
November	8,579	8.72	6,248	13.66
December	8,487	8.77	6,248	13.66
1978				
January	8,360	8.68	6,126	13.66
February	8,377	8.84	5,655	13.66
March	8,720	8.80	6,031	13.66
April	8,818	8.82	5,519	13.66
May	8,825	8.81	5,594	13.66
June	8,832	9.05	6,322	13.66
July	8,756	8.96	6,175	13.66
August	8,758	9.05	6,251	13.66
September	8,800	9.12	6,829	13.66
October	8,820	9.17	6,400	13.66
November	8,741	9.20	6,643	13.66
December	8,662	9.47	6,751	13.66
1979				
January	8,457	9.46	6,656	14.34
February	8,498	9.69	6,344	14.34

March	8,585	9.83	6,240	14.34
April	8,533	10.33	6,145	15.64
May	8,585	10.71	6,163	15.64
			Phased Deregulation	
June	8,409	11.70	6,554	19.35
July	8,355	13.39	6,349	19.35
August	8,699	14.00	6,774	19.35
September	8,466	14.57	6,410	19.35
October	8,568	15.11	6,854	19.35
November	8,649	15.52	6,154	25.81
December	8,587	17.03	6,273	25.81
1980				
January	8,675	17.86	6,406	30.75
February	8,705	18.81	6,013	32.40
March	8,698	19.34	5,695	33.42
April	8,685	20.29	5,598	33.54
May	8,635	21.01	5,106	34.33
June	8,554	21.53	5,480	34.48
July	8,547	22.26	4,843	34.51
August	8,414	22.63	4,803	34.44
September	8,619	22.59	4,707	34.46
October	8,532	23.23	4,768	34.63
November	8,495	23.92	4,680	35.09
December	8,606	25.80	5,082	35.63
1981				
January	8,540	28.85	4,932	38.85
			III. Decontrol Era	
February	8,604	34.14	4,873	39.00
March	8,613	34.70	4,521	38.31
April	8,557	34.05	4,338	38.41
May	8,501	32.71	3,287	37.84
June	8,629	31.71	4,061	37.03
July	8,500	31.13	4,296	36.58
August	8,583	31.13	4,179	35.82
September	8,604	31.13	4,740	35.44
October	8,563	31.00	4,380	35.43
November	8,586	30.98	4,046	36.21
December	8,585	30.72	4,137	35.95
1982				
January	8,509	30.87	3,693	35.54
February	8,702	29.76	2,990	35.48
March	8,667	28.31	2,874	34.07
April	8,591	27.65	2,849	32.82
May	8,683	27.67	3,309	32.78
June	8,646	28.11	3,836	33.79
July	8,658	28.33	4,248	33.44
August	8,634	28.18	3,851	32.95
September	8,701	27.99	3,636	33.03
October	8,701	28.74	3,670	33.28

November	8,697	28.70	3,862	33.09
December	8,598	28.12	3,000	32.85
1983				
January	8,697	27.22	2,964	30.62
February	8,758	26.41	2,267	29.08
March	8,700	26.08	2,290	27.84
April	8,776	25.85	3,118	28.24
May	8,631	26.08	3,360	28.55
June	8,667	25.98	3,577	29.00
July	8,636	25.86	3,871	28.99
August	8,679	26.03	4,227	29.22
September	8,784	26.08	4,210	29.24
October	8,771	26.04	3,446	29.08
November	8,770	26.09	3,337	28.93
December	8,397	25.88	3,213	28.58
1984				
January	8,659	25.93	3,029	27.56
February	8,726	26.06	2,952	27.78
March	8,718	26.05	3,455	27.70
April	8,688	25.93	3,417	27.84
May	8,752	26.00	3,927	27.87
June	8,743	26.09	3,410	27.78
July	8,769	26.11	3,646	27.19
August	8,781	26.02	3,244	27.29
September	8,759	25.97	3,294	27.14
October	8,847	25.92	3,751	27.15
November	8,846	25.44	3,552	26.91
December	8,797	25.03	3,126	26.76

SOURCES: Federal Energy Administration, *Monthly Energy Review*, various issues; U.S. Department of Energy, *Monthly Energy Review*, various issues; Bureau of Mines, *Petroleum Statement, Annual*, various issues; and Energy Economics Research Ltd. and Middle East Economic Survey, *International Crude Oil and Product Prices*, various issues.

NOTE: From January 1970 until December 1973, the posted price for Arabian 1 crude (34 degrees API) is used. From January 1973 until December 1981, the refiner acquisition cost of imported crude is used.

The sudden implementation of price controls in 1971 did little more than preserve the precontrol stagnation. Domestic output began a slight downward trend, while petroleum demand rose from a combination of economic growth, fuel-oil substitution during natural-gas shortages, and artificially low domestic crude prices from controls. With domestic supply down and demand up, increased imports and inventory reductions made up the difference.

As the Nixon price-control program wore on, the domestic producing industry began to weaken. Not only were many firms suffering from a cost-price squeeze, vital drilling equipment was in short supply because of price regulation.[199] Export-Import Bank subsidization of rig and drilling-material exports, even to Russia, left less for domestic use.[200]

Relative price incentives under early controls encouraged the production of nonoil, energy-consuming goods rather than energy-producing goods such for tubular drilling.[201] Mandatory

[199] See, for example, "Tubular-Goods Pinch Hits Drilling Pickup," *OGJ*, October 22, 1973, pp. 11–14,

[200] "Eximbank to Finance Rig, Pipe Exports despite U.S. Pinch" *OGJ*, May 6, 1974, p. 114.

[201] Complained an *Oil & Gas Journal* editorial: "While the administration talks about boosting domestic energy

allocation of drilling supplies, last experienced during wartime, was avoided only by removing price regulation of this area during Phase IV. The majors, meanwhile, increasingly turned to nonoil ventures to maintain earnings, which gave rise to criticism both outside and inside the industry.[202]

Weakened by decades of state "conservation" regulation, which subsidized marginal wells by penalizing flush wells; long-standing price controls on natural gas and now crude oil, which discouraged exploration and production; and drilling-equipment shortfalls, which postponed some drilling projects and canceled others, the domestic industry was losing market share to foreign sources. It was also losing its ability to rebound in a timely manner should new incentives appear. This not only benefited OPEC in the short run, but it would also prove important in creating the conditions necessary for the producer cartel to engineer future conditions of world output and price.[203]

Phase IV's double pricing, and the political reaction to foreign events embodied in the EPAA, set the tone for ensuing years of price and allocation controls. Prices were to be fine-tuned to simultaneously satisfy consumer and producer needs. From a two-tiered program beginning on September 1, 1973, price regulation would expand to three tiers (September 1, 1976), five tiers (July 1, 1977), eight tiers (June 1, 1979), and eleven tiers (September 1, 1979) before decontrol. Jim Langdon's early 1975 explanation of increasing complexity was insightful and prophetic.

> The present program is a perfect example of the evolution toward complexity ... [in the] attempt to bring equity into the program. . . . The motivation behind each regulatory modification is to remedy some unforeseen consequence which is creating inequitable results under the program. Ultimately, the increasing complexity aimed at increasing the equity reached a point of diminishing returns. The process of "successive approximations," as it has been called, never effectively hits the mark in terms of duplicating the market place.[204]

The complex schema was not increasing domestic output, reducing import dependence, or restraining composite prices. U.S. petroleum demand was not being mitigated to the extent necessary to adjust to world conditions.

The monthly statistics bear this out. Imports steadily climbed throughout the period (except during the embargo months in late 1973-early 1974) despite higher prices. Paradoxically, while 3.7 million barrels per day were demanded at approximately $5.00 per barrel in November 1973, 3.9 million barrels per day were purchased six months later at $13.00 per barrel.

Acute demand inelasticity would be evident again in late 1979 and early 1980 in the aftermath of the Iranian revolution. Normally, less supply would be expected to be purchased at higher prices with conservation, interfuel substitution, and increased domestic production

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supply, its Cost of Living Council makes it more profitable for steel firms to sell abroad rather than at home.... To compound the problem, CLC has made it more profitable for U.S. steel producers to emphasize sheet and structural steel rather than tubular goods for drilling [and] production. Present price controls, thus, are channeling steel into energy-consuming uses—such as automobiles and air conditioners—rather than into energy-producing uses. This is misdirection at its worst." "Steel Is Vital If Oil Is to Help Ease U.S. Energy Woes," *OGJ*, October 22, 1973, p. 9.

[202] "Exploration Results Needed from New Price Incentives," *OGJ*, October 15, 1973, p. 37.

[203] OPEC's new position was also the result of the Aramco nationalization, mentioned above, that put Saudi Arabia in control of its own prolific production.

[204] James C. Langdon Jr., "FEA Price Controls for Crude Oil and Refined Petroleum Products," *Proceedings of the Twenty-Sixth Annual Institute of Oil and Gas Law and Taxation* (New York: Matthew Bender, 1975), pp. 62–63.

coming into play. But therein lies the economic tragedy of price controls. U.S. crude production was virtually paralyzed by regulation and unable to anticipate and respond to changed world conditions that provided undreamed-of incentives. As world prices rose, domestic production responded as if $3.00 per barrel imports were still the competition.[205]

Even more telling, as domestic composite prices rose, domestic output remained unresponsive.[206] This resulted, in part, from the windfall profit tax, which after 1978 separated producers from first-sale revenues that would have encouraged new reserves and more extensive development of existing properties.

Diminished output is also explained by the move toward "incentive pricing" of high-cost, low-yield production (of stripper, tertiary recovery, and "heavy" crude), which would remain relatively fixed in quantity under the best of conditions but which would disappear under unfavorable conditions. The rationale was that supply could be *maintained* by matching ceiling prices to different costs of oil to coax out supply with as little "producer surplus" as possible. Assuming the government could know this detailed information, which is highly questionable,[207] this is scarcely a recipe for *increasing* production—inciting exploration and creating new reserves to deplete—which was urgently needed.

Only with establishment of "Newly Discovered Oil" and phased decontrol in 1979 was the need for new discoveries seriously addressed by authorities, after which a drilling boom, which peaked in early 1981, began.[208] But this was at least six years too late. The damage of price controls had been done.

The opportunity cost of regulation was the free market. Although the effects of its operation will never be known, some of what would have occurred without government intervention in the crude-oil market can be surmised from economic theory.

With the Aramco nationalization and warning signals of foreign unrest in critical oil regions, the prospect of higher future prices would have promoted inventory buildup and new drilling programs. Supply and service industries related to exploration and production would have followed in lockstep. With the actual cutoff and price hikes, inventories would have been drawn down, and MER schedules would have been revised upward by entrepreneurs to counter the embargo and higher foreign prices.

Consumers, on the other hand, would have adjusted to higher domestic and world prices by economizing on petroleum products. In the 1974–78 adjustment period, output from a drilling boom in the United States would have come on stream to partially replace imports, while

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[205] Joseph Kalt estimated that between 1975 and 1980 regulatory disincentives reduced U.S. producing between 300,000 and 1,500,000 barrels per day. Joseph P. Kalt, *The Economics and Politics of Oil Price Regulation: Federal Policy in the Post-Embargo Era* (Cambridge, MA: MIT Press, 1981), chap. 5. The discouraging effect of the windfall profit tax on existing production was similar to that of price controls.

[206] Not even an exodus of rigs to the United States as a result of restrictive Canadian oil policy in 1974 and again in 1980 could counteract the malincentives of U.S. regulation. "Canada Revives Plan for National Oil Company," *OGJ*, October 14, 1974, p. 55; and "Canadian Policies Already Forcing Rigs to U.S.," December 15, 1980, p. 48.

[207] Explained Edward Erickson: "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; and the actual set of controlled prices must reflect these elasticities.... [Yet while] the knowledge requirements for the design and administration of even a statically efficient price control system are formidable ... the knowledge requirements for a dynamically efficient system are even more perplexing." Erickson et al., "The Political Economy of Crude Oil Price Controls," pp. 793–94.

[208] U.S. oil exploration, development, and production expenditures increased from $9.4 billion in 1978 to $15.6 billion in 1979, $20.8 billion in 1980, and $30.7 billion in 1981. American Petroleum Institute, *Basic Petroleum Data Book* (Washington, DC: API, 1982), sec. 5, table 10.

implementation of new energy-efficient technologies as well as substitution of coal and natural gas would have reduced overall demand for crude oil. Demand for petroleum certainly would have been reduced before 1979–80 when the reduction finally occurred.

These adjustments would have put pressure on OPEC to competitively price crude at lower levels or at least forgo price hikes. By no means could OPEC have doubled prices again in 1979, which dramatized the total helplessness of the domestic industry to take advantage of market incentives.

"For six years," Richard Vietor concluded, "rent controls were allowed to stimulate demand, depress supply, and give OPEC the chance to do it again."[209] Given a petroleum market operating entirely upon market processes, domestic producers and consumers *could have* mitigated OPEC control of world output and prices years before mitigation finally occurred in 1981.[210] This was the error of crude-price constructivism, of the price *mis*information and *mal*incentives generated by regulation.

[209] Richard Vietor, *Energy Policy in America since 1945: A Study of Business-Government Relations* (Cambridge, UK: Cambridge University Press, 1984), p. 349.

[210] Slight effects of the Iran-Iraq war "oil shock" in October 1980, accounting for a net reduction of more than 2 million barrels per day, demonstrated growing strength of the U.S. oil industry under phased decontrol and expected deregulation.