

LEGAL PLANNING OF PETROLEUM PRODUCTION: TWO YEARS OF PRORATION

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PRORATION¹ of production of the major mid-continental oil pools in the United States has now been in general operation for well over two years.² By proration the oil-producing states, acting through

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1. For a general discussion of the precise method of proration, consult Marshall and Meyers, *Legal Planning of Petroleum Production* (1931) 41 *YALE L. J.* 33, 55, and authorities there cited.

2. The idea of prorating a restricted allowable of oil production among the producers within a particular pool seems first to have been embodied in a statute in Oklahoma in 1915. OKLA. SESS. LAWS (1915) c. 25. Before that time, the Oklahoma Corporation Commission, acting under a general anti-trust statute, sought to accomplish somewhat the same result by prohibiting the purchase of oil from certain flush fields—principally the Healdton and Cushing pools—at less than a fixed price. See Orders No. 844, 846, 846A, in Cause No. 2041, Corporation Commission of Okla. (1914), reprinted in Transcript of Record before Supreme Court of U. S., *Champlin Refining Co. v. Corporation Commission*, [286 U. S. 210 (1932)] Vol. 2, part 3, 244 *et seq.*

Following the decline of the Healdton and Cushing pools and a rapid rise in the price of oil during the great war and the years immediately following it, the Oklahoma proration statute became a dead letter. It was not until the latter part of 1926 when the price of oil had again declined to an uncomfortable level that proration was heard from once more—this time at the instigation of certain Oklahoma producers who voluntarily empowered a privately paid umpire to regulate production in the Seminole pool. Subsequently in 1927, the privately paid umpire was officially approved by the corporation commission, and his orders allegedly became proration orders of the commission under the 1915 act. By 1930 the production of the entire state of Oklahoma was thus prorated. *Id.* Vol. I, part 21, 279 *et seq.*

Meanwhile agitation for proration in Texas grew apace and dates back to the development of the Yates, Hendricks and Winkler pools in 1927 at which time a producers agreement to prorate was reached. See Donoghue, *Proration in Texas* (1931) *TRANSACTIONS OF AMERICAN INSTITUTE OF MINING AND METALLURGICAL ENGINEERS*. Encouraged by the Mid-Continent Oil and Gas Association, such agreements spread to other flush fields and by the spring of 1931, the official conservation agency of the state, the railroad commission, was promulgating proration orders based largely on these agreements. Consult McIntyre, *Production in 1930* (1931) 29 *OIL AND GAS JOURNAL* No. 37, p. 90.

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administrative commissions, have set production quotas for each pool as a whole and allocated these quotas among the variously owned wells within the pools. During the early part of this period, the daily output of crude was slashed from some 2,500,000 to approximately 2,100,000 barrels³—the overhanging weight of vast immediate potential production was largely lifted from the market⁴

See also *MacMillan v. Railroad Commission*, 51 F. (2d) 400 (W. D. Tex. 1931). A statute authorizing proration orders by the Texas Railroad Commission was first passed on August 12, 1931 and amended in November of 1932. 42 Legislature, 1st called sess. (1931) c. 26, § 1 *et seq.*; 4th called sess. (1932) c. 2. TEXAS STAT. (Vernon, Supp. 1933) §§ 6014, 6014a, 6029, 6049a, c. d.

In California, proration was first attempted by voluntary coöperation between producers in 1928. Late in 1929, an operators' general committee was set up as a general fact finding agency and an umpire appointed to secure general compliance with proration quotas. McIntyre, *supra*. Following authorization of unit development in the great Kettleman Hills field by the federal government [46 STAT. 1007 (1930); 30 U. S. C. Supp. § 184 (1930)], the work of the California Voluntary Curtailment Committee was gradually perfected despite the failure on referendum of proration legislation similar to that of Oklahoma. See 2 CAL. GEN. LAWS (Deering, 1931) § 5636 (Senate Bill No. 362) defeated on referendum held May 3, 1932. Kansas, after first attempting voluntary "co-operation" passed a proration law similar to that of Oklahoma in March of 1931. KAN. LAWS (1931) c. 226. See ELY, THE OIL AND GAS CONSERVATION STATUTES ANN. (1933).

3. Average daily domestic production in the United States in thousands of 42 gallon barrels for weeks ending—

July 11, 1931	2,538
July 18, 1931	2,430
August 8, 1931	2,551
September 29, 1932	2,092
November 5, 1932	2,097
November 12, 1932	2,127
November 19, 1932	2,117

OIL AND GAS JOURNAL, Weekly Production Reports.

4. Potential production figures are largely a matter of guesswork. A leading petroleum economist admits that "the actual potential of the country is not precisely known" but suggests that at the close of 1930, it was running in the neighborhood of 14,000,000 barrels daily. Pogue, *The Economics of Crude Oil Potential*, a paper delivered before the petroleum division of A. I. M. E. in February, 1931, reprinted in (1931) 29 OIL AND GAS JOURNAL, No. 41, p. 25. In January of 1931, the corporation commission of Oklahoma found potential production to be 10,000,000 barrels daily. Transcript of Record, *Champlin Refining Co. v. Corporation Commission*, *supra* note 2, Vol. 1, No. 122, 78, 79.

No purpose will here be served by attempting to approximate the correct figures. "Potential," like "fair value," has become a bookkeeping figure upon which to base a claim for a prorated allowable. Actual potential is a function of many variables including rate and period of flow, manner of operation, density of wells and a host of geological unknowns peculiar to each field under consideration. For instance, no one pretends that the great wells of the Oklahoma City field which have a proration potential based upon a four hour open

—the “statistical position” of the industry was further improved by the withdrawal of some 70,000,000 barrels of stocks from storage⁵ —and the price of the product soared more than 500% from a dead low of a few cents to slightly over one dollar per barrel.⁶

Then, in one of those violent swings so characteristic of the petroleum markets, the trend was completely reversed; production turned sharply upward and prices pointed steeply downward.⁷ In a few short months the gains so laboriously consolidated during the initial stages of proration were virtually wiped out. Haunted by the spectre of overhead costs⁸ and a drastically prorated volume of allowable

flow test with all adjacent wells shut in, could sustain such a rate of flow for even twenty-four hours, let alone for an extended period. Yet despite the numerical divergence of estimates of actual potential for the nation, all calculators agree that for several years, if all restraint were removed, production would be greatly in excess of present current consumption.

5. Crude stocks at the close of 1930, 1931, and 1932 totalled 411,882,000; 370,919,000; 343,250,000 barrels respectively. See (1933) 31 OIL AND GAS JOURNAL No. 36, p. 8.

6. See note 7, *infra*.

7. Average posted price per barrel of 36° gravity mid-continental crude for typical weeks of the period under consideration are as follows.

July 31, 193118
July 24, 193138
August 22, 193162
November 2, 193177
April 1, 193292
October 15, 1932	1.04*
December 15, 193269 — .88
January 20, 193344

*Certain of the Standard Oil companies, (including Stanolind, Humble, and Carter) as well as a large number of the smaller purchasing companies, refused to meet the rise in posted prices led by the Sun Oil Company. See weekly quotations published in the OIL AND GAS JOURNAL.

8. That fixed charges are exceedingly heavy in the first few years of operation in the case of an oil well may be easily illustrated. The drilling cost of a well in a field like East Texas (a shallow and cheaply drilled pool) runs from \$20,000 to \$30,000. A large part of the original investment of the independent operator is usually borrowed—probably at a premium because of the speculative nature of the enterprise. Assuming that the principal sum draws interest of at least 6% and must be amortized in the first three or four years of operation and that 1/8 of the gross income is paid out as royalty, and that a further outlay for production taxes, gathering, transportation and operating expenses is necessary before an operator can realize any income from his well, it is obvious that an insufficient volume of production, even at a “fair” price, tempts an operator, burdened with such unavoidable “costs,” to increase his volume by illicit production. And once started by any considerable number of operators, the practice must increase in geometric progression as the bootleg price eventually lowers the posted price. Continued cuts in the proration quotas still further accelerate the production of illicit oil unless there is a concomitant rise in price.

production,⁹ an ever increasing number of so-called independent operators resorted to bootlegging production in excess of proration quotas to meet fixed charges and avoid the loss of their wells.¹⁰ Their plight was aggravated by an ever decreasing allowable made necessary, if prices were to be sustained, by the rapid upbuilding of potentials from competitive drilling in both known and newly discovered flush fields.¹¹ Probably no one will ever know just how

9. See note 11, *infra*.

10. As early as July 1, 1932, it was reported that if wells in the East Texas field were ". . . cut back every two weeks, as they have been in the past, the daily gross revenues from the wells will be so low as to force many of the operators into the hands of the receivers." (1932) 31 OIL AND GAS JOURNAL No. 7, p. 34. Two weeks later: "production and distribution figures seldom can be made to balance in this field", as some of the pipe lines show one set of figures to the Railroad Commission and another set to the producer. Refiners are reluctant to pay the posted price of 98 cents for legally produced oil when the competitors are buying "overage" at 50 cents. *Id.* No. 9, at 58. This overage was estimated at from 20,000 to 100,000 barrels daily. *Id.* No. 10, at 99. When the railroad commission sought to plug up the leaks by requiring the pipe lines to show affidavits that oil was "legally purchased," shipments by tank car tripled in three weeks. *Id.* No. 15, at 36. By the middle of September, stopping illegally run oil was said to have become the "most important matter before the petroleum industry of the United States." *Id.* No. 18, at 7. In East Texas alone it was estimated that some 400 trucks were running bootleg oil to local refineries and tank cars under cover of darkness and with such a condition prevailing, the "posted price" of 98 cents was "becoming less and less a factor in purchases." *Id.* No. 17, at 7, 32. Operators resorted to ingenious mechanical devices to "by-pass" oil from producing wells, the most spectacular of which was the erection of a concrete "pill-box", allegedly to protect the well from marauders, but effective to protect it from inspection by proration officials. (1933) *Id.* No. 35, at 7.

Meanwhile, in Oklahoma events followed much the same course. In June of 1932, Governor Murray ordered the installation of better meters at specified points on the pipe lines, "in order that proration may be carried out in truth and in fact"; by July he found it necessary to put national guardsmen in the Oklahoma City field to prevent illicit runs of crude; by August an investigation of oil thefts was commenced by the Legal Advisory Committee of the Oklahoma Statewide Proration Committee, because the pipe line runs failed to balance; by September the discovery of over 3,500,000 barrels of unreported oil by the Oklahoma Tax Commission precipitated a general investigation of proration by the Corporation Commission. (1932) *Id.* No. 8, at 49; No. 9, at 9; No. 12, at 31; No. 18, at 49.

11. A total of over 5000 new wells, virtually all of them large commercial producers, were completed in East Texas alone during 1932. In July of that year 1279 wells were completed in the country at large, of which East Texas reported 719. From September, 1931, until the close of 1932 the proration allowable in East Texas was decreased from 225 barrels to approximately 30 barrels per well. Similar though less spectacular development was taking place throughout the other major producing areas. The situation as respects allowables was further aggravated by the discovery and development of new fields, the most troublesome of which proved to be in the Gulf Coast region,

much illicit oil has been run from the prolific pools of Oklahoma City and East Texas during the last few months. But investigation of proration administration clearly establishes the movement of vast quantities of "hot oil" to market at discounts ranging up to 50% of officially posted prices.¹² Such price cutting has been more than the large integrated producers and refiners of crude, presumably buying at the posted prices, could stand.¹³ Their gasoline sales already seriously undermined by tax evading retailers,¹⁴ the major companies felt themselves unable to meet the additional competitive

where a new pool near Conroe built up a potential production of well over 200,000 barrels daily in the course of six months. This pool, strategically located near tidewater, absorbed the market for East Texas crude as East Texas had previously absorbed the market of older fields. Nor was this all—an extensive "play" developed other new pools along the Gulf Coast in Texas and throughout Oklahoma, Kansas, Michigan and northern Louisiana. For developments at Conroe see (1932) OIL AND GAS JOURNAL No. 8, 55; No. 20, at 77; (1933) No. 38, at 46. For the yearly summary of development in the United States see *Id.* No. 38, at 82, 88, 97, 105.

Competitive drilling was further stimulated by the method of proration used. Proration based on a flat or potential per well allowable rather than upon acreage content was a direct invitation to drill. See Marshall and Meyers, *supra* note 1, at section V.

12. See note 10 *supra*. Some idea of the magnitude of "stolen" production may be gained from testimony adduced in a recent probe of proration observance by a committee of the Oklahoma Senate. One refinery admitted purchase of over 500,000 barrels of "hot" oil. One prominent official testified that his company had overproduced 1,000,000 barrels in 13 months, and when asked how it was done he replied, "We just filled our tanks and pumped the oil out." Still others admitted purchases of illegal production totaling hundreds of thousands of barrels. (1933) 31 OIL AND GAS JOURNAL No. 37, p. 11. A similar probe by the Railroad Commission of Texas revealed a comparable situation existing in East Texas, where one large pipe line was asked to explain an alleged discrepancy of 1,000,000 barrels in slightly over a year. *Id.* No. 35, at 7; No. 36, at 13.

For a recent tabular summary of illegal production in East Texas, see *Id.* No. 40, at 32.

13. It is assumed by the large integrated companies that most of the illegally produced oil moves to small refiners and appears eventually on the market as cut-rate gasoline. Support for this belief is found in the mushroom-like growth of small refineries in East Texas during the last year. See (1932) 31 OIL AND GAS JOURNAL, No. 16, p. 40 (statement by Harry F. Sinclair, President, Sinclair Oil and Refining Co., expressing the opinion that if illegal runs of crude could be stopped, the price would remain firm).

14. The effect upon the retail market of gasoline tax evasion is beyond the scope of this article. It is enough for present purposes to note that the tax evader, generally a small retailer as contrasted with the nationally known sellers, has been able to cut prices by reason of his pocketing the amount of the tax. See *Constitutionality of Gasoline Taxes in the Light of Their Current Operation*, Comment (1932) 41 YALE L. J. 763, 767, and authorities there cited.

disadvantage of cheap "stolen" raw material moving to uninquiring small refiners. First, several of the Standard companies refused to meet a rise in crude prices posted by a group of their competitors—then these competitors slipped back to the Standard level and finally the whole price structure once more collapsed.¹⁵

But this statistical record of two years of proration gives no clue to its purposes and implications. Proration is the device hit upon by the oil industry to meet the problems of excess capacity, problems apparently now common to the production of virtually all raw materials in this country. A proper and adequate solution of the legal problems involved in proration is important not only in order that the oil industry may be saved from the chaos of competition in which it finds itself but also because proration may well be applied as a means of planning production in other demoralized industries. The problem of the law, in its broadest sense, is to forge a means of control that gives promise of striking a fair balance between intensely conflicting interests—interests which embrace the many factions within the industry, the states in which the industry is situated and the consumers of its products scattered throughout the nation at large.

Improvement in the general statistical position of the oil industry, so long as proration was effectively enforced, seems clear and certain. Yet the many legal and economic justifications of proration as applied to oil production appear hopelessly confused and conflicting. Proponents of proration have justified this control of production as a measure for "conservation." "Conservation" has been put forward as the reason for proration by the legislatures of the midcontinental oil states.¹⁶ It has served courts as a constitutional peg for such legislation.¹⁷ It has been invoked by Governors Murray and Sterling in their martial law proclamations, which shut down or reduced flush flow in Oklahoma and East Texas.¹⁸ Both sellers and purchasers of crude have declared it to be the mainspring of their desire for a

15. See note 7, *supra*.

16. See text of statutes cited note 2, *supra*.

17. See Section VI, *infra*.

18. "Whereas, the shutting down of all producing wells of the state . . . is a measure of conservation . . ." *Executive Order, Calling Out of The National Guards, Declaring Martial Law And Ordering Military Control To Close Down All Prorated Wells* (Aug. 4, 1931) reprinted in (1931) 30 OIL AND GAS JOURNAL No. 12, p. 13, 112. "Whereas it is necessary for the preservation of the crude petroleum oil and natural gas in the defined district that the reckless and illegal exploitation of the same be stopped until such time as the said resources may be properly conserved and developed. . . ." *Proclamation by the Governor of the State of Texas*, note 64, *infra*.

legally limited output of petroleum.¹⁹ An Oil States Advisory Committee has assumed it to be the ultimate purpose of a proposed interstate compact prorating production among producing states.²⁰ And true to its name, the Federal Oil Conservation Board has couched its program in terms of "conservation."²¹

19. As long ago as January, 1929, W. S. Farish, President of the Humble Oil and Refining Co., felt that the new year would be "prosperous in direct proportion to the success of the industry in conserving and restraining production," and E. B. Reeser, then President of the Barnsdale Oil Co. and of the American Petroleum Institute, wanted royalty owners to participate in "conservation work," and approved the appointment of the Federal Oil Conservation Board by President Coolidge for further conserving our natural resources. Likewise, Frank Phillips, President of Phillips Petroleum, insisted that voluntary coöperation was ineffective to promote that orderly development which "sound economics and true conservation demand." At a meeting of Oklahoma oil men held at Tulsa on February 5, 1929, it was decided to limit production in Oklahoma to 650,000 barrels per day "in the interests of conservation." (1929) 27 OIL AND GAS JOURNAL No. 33, at 30; No. 34, at 38; No. 38, at 29. In October of 1931, Judge H. O. Caster, general counsel for Henry L. Doherty Co., insisted that "it behooves our government to protect our vanishing natural resources for the longest possible period of time for future generations," (1931) 30 OIL AND GAS JOURNAL No. 23, p. 17; and in November a year later Mr. Pew, Vice-president of the Sun Oil Co., declared that the oil industry is interested "primarily in conservation and then in price, and in price only as that price affects conservation", 31 *Id.* No. 26, at 21. And in the same month Amos L. Beatty, retiring president of the American Petroleum Institute, told the annual meeting of that association that the new Texas proration law restricting production to market demands was "not price fixing or valorization" but "conservation". *Id.* No. 26, at 24.

20. On February 28, 1931, Governors Murray and Sterling met with representatives of the Governors of Kansas and New Mexico at Fort Worth "for the purpose of discussing the conservation of crude petroleum and natural gas and to bring about concerted action on the part of all oil producing states." They agreed to form an Oil States Advisory Committee "to sponsor such . . . legislation . . . as may be necessary effectually to conserve . . . their natural resources for the benefit of the public and posterity. . . ." This committee was enlarged to include representatives of all the major oil producing states and met on April 14 and 15 in St. Louis where it was unanimously agreed that a curtailment program "will best promote conservation of the natural resources of our states." Transcript of Record before the Supreme Court of U. S., No. 11, *Sterling v. Constantin*, 170 *et seq.* Out of these early beginnings the idea of an interstate compact sprung. See notes 103, 104, *infra*. Also see ELY, OIL CONSERVATION THROUGH INTERSTATE AGREEMENT (1933).

21. The Federal Oil Conservation Board was appointed in 1924 by President Coolidge to prevent "a future shortage in fuel and lubricating oil, not to mention gasoline." He indicated that the future of the industry "might be left to the simple working of the law of supply and demand," if the oil industry's welfare was not of such grave public concern as to require "that Government and business . . . join forces to work out this problem of practical conservation." In its first report the Board suggested that "State

Yet here is no thread by which the conflict and confusion of legal and economic argument may be woven into an orderly and satisfactory pattern. These many advocates are too obviously referring to many different and often times inconsistent kinds of conservation. Thus while the early reports of the Federal Oil Conservation Board recommend conservation of our purely physical oil resources to avoid future shortage, and even suggest the acquisition of foreign sources of supply by American capital,²² the most recent report of that board seems largely concerned with the conservation of oil "investments" and has gone so far as to endorse curtailment of foreign imports through the medium of a tariff or partial embargo.²³ Spokesmen for

governments should promptly study the economic advantage of coöperative action . . . " and recommended that State legislation should be enacted " . . . with the *declared* purpose of conservation . . . " (italics ours). REPORT I OF THE FEDERAL OIL CONSERVATION BOARD (1926) 24. Even as late as 1930 this Board proclaimed that "The purpose of the several conservation measures urged by the Federal Oil Conservation Board is primarily to delay the coming of the day when an impending shortage of crude oil will cause a radical advance in the prices of refinery products . . . " IV *Id.* (1930) 8.

22. Fear of scarcity is the dominant note of the first report of the Federal Oil Conservation Board, published in 1926. The Board recommended intensive exploration for new fields and deeper sands, more efficient recovery from old fields, better refining methods, research by engine builders to secure more efficient use, and "the expansion of American holdings in foreign fields." "The fields of Mexico and South America are of large yield and much promising oil structure is as yet undrilled. That our companies should vigorously acquire such fields is of first importance, not only as a source of future supply, but supply under control of our own citizens Moreover, an increased number of oil sources tends to stabilize price and minimize the effect of fluctuating production." REPORT I OF THE FEDERAL OIL CONSERVATION BOARD (1926) 12, 13.

23. " . . . unrestricted production . . . means the temporary or even permanent abandonment of the older wells of settled production, with attendant dislocation of investments." REPORT V OF THE FEDERAL OIL CONSERVATION BOARD (1932) 3. After pointing out that crude oil prices at the end of the first half of 1932 were over twice those of a year ago and five times the 1931 lows, the Board insists that "the American oil industry gives indication of being the first basic industry to emerge from the world depression," and "the effects of the industry's rising purchasing power are beginning to be felt." *Id.* at 1. The Board did not explain the connection between conservation and "rising purchasing power" or emergence "from the world depression."

With respect to foreign imports the Board suggests that they be curtailed by "a flexible tariff" or "partial embargo." *Id.* at 24-25. Robert G. Stewart, President of the Pan-American Petroleum and Transport Co., testifying before the Ways and Means Committee against the tariff on oil passed by Congress in June of 1932, characterized this change of front as a "breach of faith to the companies" which had been urged by the Board to "vigorously acquire and explore" foreign fields. (1933) 31 OIL AND GAS JOURNAL No. 39, pp. 14, 93. Clearly enough, were the Board still "primarily" interested in delay-

the Oil States Advisory Committee likewise speak generally of the need of conserving natural resources for future use and yet advocate that some Federal agency participate in a projected interstate compact to prorate or prohibit imports of foreign crude.²⁴ Similar contradictions characterize the attitude and actions of the martial law Governors of Texas and Oklahoma who speak indiscriminately of proration as a scheme to conserve oil, to conserve the price, to conserve taxes, and to conserve the independent producer.²⁵ Those engaged in the oil industry add further to the confusion when they publicly declare for proration to conserve oil in the ground while they privately seek support among their own numbers for proration to conserve the price in the market.²⁶

ing "the coming of the day when an impending shortage of crude oil will cause a radical advance in the prices of refinery products," that danger, if real, could best be minimized by the purchase of as much and as cheap foreign crude as possible. That the danger of scarcity which the Board foresaw in 1926 was at least somewhat exaggerated, see note 4, *supra*, and note 123, *infra*.

24. See *infra*, section IV.

25. See Marshall and Meyers, *supra* note 2, at 52-55. Also see text of Governor Sterling's proclamation of martial law in Transcript of Record before the Supreme Court of U. S., No. 11, *Sterling v. Constantin*, 90-93. It is interesting to note that in Governor Murray's letter of February 5, 1931 inviting Governor Sterling to send a delegate to the first meeting of the Oil States Advisory Committee, he declared that proration was necessary because "the oil industry is in the dumps, which greatly affects labor and the increase of the unemployed." *Id.* at 170. And in a subsequent letter to Governor Sterling, on April 18, he wrote "that the independent producers are now in a distressed condition," and recommended that the report of the Oil States Advisory Committee be approved because "it will insure a ready market for the allowable production and will remove the menace of distress crude," and also permit the producing states to control the situation "in the interests of their natural resources, their taxable revenues, and their entire citizenship." *Id.* at 196, 197.

26. This is illustrated by a colloquy between Mr. Robert R. Penn of the Oil States Advisory Committee and Dan Moody, former Governor of Texas and Attorney for those opposing proration in East Texas, in a hearing before the Railroad Commission in March of 1931. Mr. Penn testified that conservation was the object of the Oil States Advisory Committee and "price was not mentioned and was not the actuating influence." Mr. Moody asked, "Why was price not discussed?" And Mr. Penn replied, "Because our attorneys told us we could be concerned only with conservation." "Are you not interested in prices?" asked Mr. Moody. "Yes," answered Mr. Penn, "all oil men are. We discussed prices as individuals. Unfortunately, we can not consider price in fixing proration." (1931) 29 OIL AND GAS JOURNAL, No. 46, at 21, 124. Likewise, although Amos L. Beatty in his valedictory address as President of the American Petroleum Institute on November 15, 1932 said that proration was not "price fixing or valorization" but just "conservation," (see note 19, *supra*) two months previously he made the following statement to the press: "The movement to increase the well allowable in East Texas is dangerous . . . Yes, I am thinking about price and price stability. I would not make

Even the proration statutes attempt to lump a variety of aims and purposes under the single word "conservation." It is true that all such laws seek to conserve against "waste." But "waste" in addition to its ordinary meaning includes "economic waste" and "waste incident to the production of crude in excess of transportation and marketing facilities or reasonable market demands."²⁷ And when a

an argument to the Railroad Commission based on these factors because the Commission has nothing to do with price or economics—it deals only with physical waste. But the argument is one which should appeal to those members of the industry who are about to embark on a rash crusade. There is no market for additional East Texas crude, *except at reduced prices.*" (italics ours) *Ibid.*

And perhaps this is conclusive: Testifying before a special legislative session called to draft the "conservation" amendments of 1931, Governor Sterling of Texas was asked: "Governor, is it not a fact that low prices are responsible for this session?" He replied, "Yes, you would not be here if oil was selling at \$1.00 or \$1.50 per barrel. We are losing hundreds of thousands of dollars." (1931) 31 OIL AND GAS JOURNAL, No. 11, at 21.

27. "That the production of crude oil or petroleum in the State of Oklahoma in such manner and under such conditions as to constitute waste is hereby prohibited." 2 OKLA. STAT. (1931) c. 59, § 11565. "That the term 'waste' as used herein, in addition to its ordinary meaning, shall include economic waste, underground waste, surface waste, and waste incident to the production of crude oil or petroleum in excess of transportation or marketing facilities or reasonable market demands." *Id.* § 11567. In addition, it is provided that waste shall include "the production of crude oil at a time when there is not a market demand therefor at a price equivalent to the actual value of such crude oil or petroleum," which value shall be the average value "in the United States at retail of the by-products of such crude oil or petroleum when refined less the cost and a reasonable profit in the business of transporting, refining and marketing the same." *Id.* § 11566. The Corporation Commission of Oklahoma, however, has never predicated any of its orders upon this last section. See *Champlin Refining Co. v. Corporation Commission*, 286 U. S. 210, 232, 234 (1932).

In Texas it is provided that "the production, storage, or transportation of crude petroleum oil or of natural gas in such manner, in such amount, or under such conditions as to constitute waste is hereby declared to be unlawful and is prohibited. The term 'waste' among other things shall specifically include: . . . The production of crude petroleum in excess of transportation or market facilities or reasonable market demand." TEX. STAT. (Vernon, 1931) tit. 102, art. 6014, as amended S. B. 1, Nov. 12, 1932. In Kansas waste of petroleum is likewise prohibited, and waste "in addition to its ordinary meaning shall include underground waste, surface waste, and waste of gas energy, and waste incident to the production of crude oil or petroleum." KAN. LAWS (1931) c. 226, §§ 1, 2. Although the Kansas statute does not specifically mention market demand, the public service commission entrusted with proration has apparently issued orders based upon it.

California likewise passed a statute prohibiting "waste" of petroleum, and defined waste to include "the production of crude petroleum oil when the current production together with the amount of crude petroleum oil and/or its refined products in storage exceeds the current requirements for use within

particular pool is prorated by reference to economic waste, reasonable market demands, and an agreed upon state quota of a total forecasted demand for the nation at large,²⁸ then conservation of natural resources shades definitely into conservation of price and conservation of existing capital structure.

As might be expected, this statutory confusion of purpose has led to judicial conflict of decision. This conflict commences in *Julian v. Capshaw*²⁹—the very first case in which the legality of proration was definitely challenged. The Supreme Court of Oklahoma divided sharply over the purpose of proration in that state. Five justices, a bare majority of the court, viewed the Oklahoma statute as directed only to the prevention of waste of oil. One of these justices, more bold than his brethren, frankly admitted that the “enforcement of the conservation act may have some influence on price,” but argued that this influence is “merely incidental and not the primary purpose” and that such an incidental result is “only another element of the broad functions of the police power” by which the government may “promote the general prosperity.” A sixth justice, concurring only in the result of the majority, expressed cautious concern lest conservation statutes become the vehicle of monopoly of supply or of prices. Two dissenting justices went to the other extreme and saw proration based upon “market demands” as a “mere subterfuge by which control of prices is sought.”

Following hard on the heels of the *Julian* decision by the Oklahoma Supreme Court, proration orders were contested before a three judge federal court in *Champlin Refining Company v. Corporation Commission*.³⁰ Again there arose a conflict of opinion among the judges.

and for shipment to points without the State, and for the maintenance in storage of such reserves of crude petroleum oil and/or its refined products as are reasonably necessary to meet and insure the continuity of an adequate supply of crude petroleum oil and/or its refined products for such current requirements as determined upon the basis of past experience, existing conditions, and estimated future requirements of crude petroleum oil and/or its refined products for such use and shipment.” CAL. LAWS (1931) c. 585. This particular provision, however, was defeated on referendum held May 3, 1932, which left curtailment in California dependent upon the enforcement of an oil-gas ratio (See *Id.* c. 791, § 8) and the efforts of a voluntary curtailment committee which admittedly determines curtailment quotas by reference to market demand. See note 2, *supra*. With respect to oil-gas ratio, consult Marshall and Meyers, *supra* note 1, at 58.

28. As to the method of integrating market demand for a particular pool with market demand for a state and for the nation at large, see *infra* section III.

29. 145 Okla. 237, 292 Pac. 841 (1930). Also see Marshall and Meyers, *supra* note 1, at 56.

30. 51 F. (2d) 823 (W. D. Okla. 1931). See Marshall and Meyers, *supra* note 1, at 56 *et seq.*

Two circuit judges, comprising a majority of the court, while admitting the possibility of the statutory restriction preventing "a supply in excess of the market demand" so as indirectly to "sustain the price," nevertheless insisted that such "was not the main purpose of the statute and the fact that it may have an indirect effect on prices does not . . . render it invalid." The third member of the court, a district judge, could not "escape the conclusion that the act . . . is no more or less than a part of the legislative scheme to fix prices for crude oil."

Contemporaneous litigation in Texas resulted in a similar conflict, only here the line of conflict was between Federal and State Courts rather than between judges of the same tribunal. The Texas statute under which the Railroad Commission first prorated the flush fields of that state did not specifically authorize proration as such. It merely empowered the commission to prevent "physical waste" and expressly excluded "economic waste" from consideration.³¹ The Railroad Commission, however, with the example of Oklahoma before it, assumed that proration was the most satisfactory means of preventing physical waste in flush fields and proceeded to issue proration orders based upon "market demand" as forecasted by nominations of prospective purchasers of crude.³² Certain of these orders were challenged in *MacMillan v. Railroad Commission*³³ in which a three judge Federal court held them to be void "because issued in the attempted exercise, not of a delegated, but of usurped powers." Circuit Judge Hutcheson,

31. "Neither natural gas nor crude petroleum shall be produced, transported, stored, or used in such manner or under such conditions as to constitute waste: *Provided, however*, this shall not be construed to mean economic waste. The Term 'waste' in addition to its ordinary meaning, shall include permitting (a) escape into the open air of natural gas except as may be necessary in the drilling or operation of a well; (b) drowning with water of any stratum capable of producing oil or gas or both oil and gas in paying quantities; (c) underground waste; (d) any natural gas well to wastefully burn; (e) the wasteful utilization of natural gas; (f) the creation of unnecessary fire hazards." TEX. STAT. (Vernon, Supp. 1931) tit. 102, art. 6014, as amended by act of March 29, 1929. This was again amended by act of November 12, 1932. See note 27, *supra*.

32. In an open letter to purchasers and transporters of crude oil in the East Texas Fields, the Texas Railroad Commission under date of May 23, 1931 urged ". . . prompt action in the form of fair offers to buy prorated oil in substantial amounts and as near the posted price as possible and on that stabilized basis only". See *MacMillan v. Railroad Commission*, 51 F. (2d) 400, 401, n. 1 (W. D. Tex. 1931).

33. Note 32, *supra*. Reversed and remanded with directions to dismiss the complaint on the theory that the question had become moot as a result of subsequent amendment of the relevant statutory provisions. *Railroad Commission v. MacMillan*, 53 Sup. Ct. 223 (1932). For amendments see note 27, *supra*, and note 41, *infra*.

writing the opinion of a unanimous court, definitely indicated that such usurpation was not so much the issuance of proration orders as the determination of these orders by reference to "market demand." He insisted that "under the thinly veiled pretense of going about to prevent physical waste, the Commission has, in coöperation with persons interested in raising and maintaining prices of oil" attempted "to control the delicate adjustment of market supply and demand in order to bring and keep oil prices up."

But although Judge Hutcheson, speaking for a Federal court, felt that the price fixing purpose of proration was so obvious as to be a proper subject of judicial cognizance, the Court of Civil Appeals of Texas in *Danciger Oil and Refining Company v. Railroad Commission*³⁴ reached the opposite conclusion. This court, while admitting that the Commission had no authority to issue orders "to affect prices or to prevent economic waste," declared that such limitation is not a denial of power "to take into consideration an economic standard or economic conditions if such conditions bear a direct or reasonable relationship to physical waste." And whereas the Federal court in the *MacMillan* case had insisted that the orders of the Railroad Commission only "incidentally or accidentally" prevented physical waste, the Texas court in the *Danciger* case proclaimed that these orders only "incidentally or indirectly influenced the price."

Inevitably this judicial conflict as to the purpose of proration was presented to the Supreme Court of the United States for final determination. The first such appeal to reach that tribunal was from the decision of the Federal three judge court which had sustained both the Oklahoma proration statute and specific orders of the Corporation Commission restricting the production of the Champlin Oil Company.³⁵ The statute in question expressly authorized proration to "reasonable market demands" and the orders made thereunder were admittedly predicated upon "nominations" of expected purchases by the main buyers of crude. The Supreme Court records disclose that both the statute and its administration were denounced as violating the constitutional guarantees of due process, equal protection and liberty of contract. More specifically, counsel for the Champlin Company argued that the statute was invalid both because it worked a deprivation of a vested property right to take all the natural flow of oil and gas if produced without physical waste and devoted to a useful purpose³⁶ and because it purposely and neces-

34. 49 S. W. (2d) 837 (Tex. Civ. App. 1932).

35. *Champlin Refining Co. v. Corporation Commission*, 286 U. S. 210 (1932).

36. Transcript of Record, Vol. I, part 1, at 32. And see *Id.* Vol. I, part 2, at 379 *et seq.* The Champlin Refining Co. alleged that its nearby refinery could utilize efficiently all the natural flow of its Oklahoma City wells which

sarily resulted in controlling crude prices for the special benefit of the oil producers. A price fixing purpose and effect were likewise imputed to the administration of the act. Further objections were taken to the administrative orders on the ground that they were arbitrary, inequitable, and in fact promulgated not by a public agency but by a private umpire paid by interested producers. The Supreme Court, per Mr. Justice Butler, unanimously sustained both the act and the orders.

In so far as the opinion of the court approves legislation calculated to prevent physical waste and protect correlative rights, the decision follows a path already well marked by prior adjudications. Even those who have held that particular statutes or orders are invalid because serving a price-fixing purpose have not questioned prorating free from such a sinister purpose. But in dealing with the crucial question of whether or not this statute and these orders constitute price-fixing, Mr. Justice Butler "puts aside plaintiff's contentions resting upon the claim" that the applicable section of the statute "authorizes or contemplates directly or indirectly regulation of prices of crude oil," and asserts that "none of the commission's orders has been made for the purpose of fixing the price of crude oil or has had that effect."³⁷ He seeks statistical support for such statements by adopting the figures of counsel for the commission showing that "when the first order was made the price was more than two dollars per barrel" but it "had declined until at the time of trial it was only thirty-five cents."³⁸

Yet if any one expected that this decision of the Supreme Court would set at rest litigation arising out of proration, that expectation was short lived. Indeed the seeds of further litigation sown by Governor Murray in his proclamation of martial law closing down the flush fields of Oklahoma in the summer of 1931 had already grown into a new crop of law suits in Texas by the winter of 1932. Terrified lest the *MacMillan*³⁹ decision result in a wide open East Texas,⁴⁰ the legislators of that state hastily assembled in special

the Corporation Commission had curtailed under proration. The company further argued that proration compelled it to purchase oil from other producers in order to keep its refinery in operation. For the effect upon adjacent producers of allowing the Champlin Company to produce beyond its prorated allowable, see Marshall and Meyers, *supra* note 1, at 57.

37. Champlin Refining Co. v. Corporation Commission, *supra* note 35, at 232, 234.

38. *Id.* at 232. Transcript of Record, Vol. 1, part 2, 312 *et seq.*, and Vol. 2, part 2, 134 *et seq.*

39. Note 32, *supra*.

40. East Texas has been described as "the greatest field in oil producing history." It embraces some 120,000 proved acres, and is estimated to contain over 6,000,000,000 barrels of oil of which over 2,000,000,000 are recoverable

session in July of 1931, and with Judge Hutcheson's opinion before them, they quickly drafted a new conservation act. Judge Hutcheson had apparently held that by the old conservation act the legislators had neither expressly nor impliedly authorized the Railroad Commission to institute a system of proration and more especially to prorate to market demand. The legislators proceeded to cure the first defect and aggravate the second. The new act expressly authorized proration to prevent physical waste but expressly forbade proration "to directly or indirectly limit the production of oil to equal existing market demand."⁴¹ In spite of this latter limitation of the Commission's power, it was generally believed that proration to prevent physical waste would hold East Texas in check once the commission had had time to make findings and issue the necessary orders. In the interim, however, East Texas could, and for a few

by present production methods. See *People's Petroleum Producers v. Smith*, 1 Fed. Supp. 361, 363 (E. D. Tex. 1932). In area it embraces more territory than six of its nearest rivals in the United States, including Oklahoma City and Seminole in Oklahoma, Yates and Hendricks in Texas, Hobbs in New Mexico, and Kettleman Hills in California. REPORT V OF FEDERAL OIL CONSERVATION BOARD (1932) 43, fig. 3. The East Texas Geological Society declared in September, 1931 that this field was "greatest in area; greatest in daily potential; greatest in future reserves; greatest in threat to the oil producing business; and, if production is not restricted, it will be the greatest in waste of natural resources." *Id.* at 42.

41. "Neither natural gas nor crude petroleum shall be produced, transported, stored or used in such manner or under such conditions as to constitute waste; provided, however, this shall not be construed to mean economic waste, and the Commission shall not have power to attempt by order, or otherwise, directly or indirectly, to limit the production of oil to equal the existing market demand for oil; and that power is expressly withheld from the Commission, and no part of this Act shall ever be construed so as to prevent the storage of oil except for the prevention of physical waste." . . . "The Commission shall have the right when it reasonably appears, and shall upon the verified complaint of any party showing that physical waste of crude petroleum oil or natural gas is taking place in this State, or is reasonably imminent, to hold such hearings at such times and places as it may fix, to determine whether or not such waste is taking place, or is reasonably imminent, and to make inquiry into what rule, if any, or what regulation or order should be made, and what action, if any, should be taken to correct, prevent, or lessen the same within the meaning of this Act." . . .

"If it is the judgment of the Commission that any reduction or adjustment in the production of oil or gas from any well or pool is necessary in order to prevent the waste as herein defined of crude petroleum or natural gas from any such well or pool, the Commission shall determine how to accomplish such reduction or adjustment and such order shall be made in such manner as to distribute, prorate or otherwise apportion such reduction or adjustment among the wells committing such waste or contributing thereto as the facts justly and equitably require." . . . TEX. STAT. (Vernon, Supp. 1931) art. 6049c, § 7.

days did, produce 1,000,000 barrels of oil per day.⁴² Confronted with this "emergency" and inspired by the example of the Governor of Oklahoma, Governor Sterling on August 16th, 1932, placed the East Texas field under martial law and ordered Brigadier General Wolters to enforce a complete shutdown of every well in that area.⁴³

Martial law was presumably to last only until the Railroad Commission had opportunity to promulgate new proration orders in accordance with the new conservation act. Yet when, on September 2nd, 1931, such new orders were forthcoming, the troops stayed on, allegedly to enforce the decrees of the Commission. The quotas for the field and the allowables per well were steadily reduced. For more than a month, this state of affairs continued without serious interruption. By October 10th, the allowable had been cut from 225 to 165 barrels per well.⁴⁴

42. Official daily average production of the East Texas field for the week prior to the military shut down totaled 738,000 barrels. (1931) 30 OIL AND GAS JOURNAL No. 15, p. 11. Unofficial reports for the last twenty-four hour period before the soldiers closed the wells showed an indicated production of approximately 1,000,000 barrels. *Id.* No. 14, at 27.

43. Transcript of Record, *Sterling v. Constantin*, *supra* note 20, at 90.

44. Daily per well allowables in barrels for East Texas were as follows:

By order of the Railroad Commission—

September 2, 1931	225
September 18, 1931	185
October 10, 1931	165

By order of Brigadier General Wolters incorporating order of Railroad Commission of September 18th—

September 19, 1931	185
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By order of Governor Sterling to General Wolters—

October 29, 1931	150
November 6, 1931	125
December 10, 1931	100
February 5, 1932	75

By order of the Railroad Commission—

March 16, 1932	78
April 1, 1932	71
April 16, 1932	67
May 1, 1932	61
May 16, 1932	59
June 1, 1932	64
June 16, 1932	51
July 1, 1932	50
July 19, 1932	46
August 1, 1932	44
August 16, 1932	43

Then, the entire status of prorationing was again challenged in litigation instituted by one Constantin, an East Texas producer, who claimed that because of the position of his wells on the structure he was able to produce at least 5000 barrels per day without physical waste.⁴⁵ Constantin claimed that the Railroad Commission had again prorated to market demand for the purpose of controlling prices; this time in the face of express statutory prohibition. The Federal district court granted a temporary order restraining the Railroad Commission "from limiting the plaintiff's production below 5000 barrels per well."⁴⁶ Constantin won his case.

But no sooner had the restraining order been issued than the Governor ousted the Commission from control of proration and

September 1, 1932.....	50
September 16, 1932.....	46
October 1, 1932.....	44
October 16, 1932.....	40
November 1, 1932.....	(No new order)
December 1, 1932.....	37
December 17—January 1—(field shut in to measure "bottom hole pressures.")	

See Transcript of Record, *Sterling v. Constantin*, *supra* note 20, at 208-222; (1933) 31 OIL AND GAS JOURNAL No. 36, p. 102.

On January 9, 1933, the Railroad Commission had completed its findings on "bottom hole pressures" and issued an order allowing each flowing well 28 barrels per day plus .6 barrels for each 100 pounds of pressure above 1000 pounds. Since the maximum pressure in the field did not exceed 1500 pounds, maximum production of any particular well could not exceed 31 barrels.

45. Transcript of Record, *Sterling v. Constantin*, *supra* note 20, at 13 *et seq.* Geologically the East Texas field is thought to be an ancient shoreline which pinches out to a closure on the east to form a structure under pressure from an hydraulic basin, the strata of which outcrops sixty miles from the western edge. In general, maximum pressures are found in the western portion of the field, and geologists claim that the field will drain from west to east—*i.e.*, from the high pressure region on the west to the low pressure region on the east. As this drainage occurs, the oil on the west will presumably be replaced by a rising water table. (1932) 31 OIL AND GAS JOURNAL No. 10, pp. 8-9, No. 20, pp. 38-39. Constantin's wells were located in the western section of the field in Rusk County, Texas. Transcript of Record, *supra*, at 3-5. Although geologists are not agreed as to the amount of underground waste which might be caused by allowing heavier withdrawals than proration permitted, Constantin apparently believed that a rising water table would sooner or later drown out his wells and that the time at which this occurred made little difference with respect to the total oil recoverable from the field. In addition, he may have feared that a rate of flow drastically choked back by the orders of the Railroad Commission would benefit low pressure wells on the east. Given time the advancing water from the west might wash oil originally lying beneath Constantin's land eastward to wells less favorably situated on the structure. *Id.* at 46.

46. See *Constantin v. Smith*, 57 F. (2d) 227, 229 (E. D. Tex. 1932).

commanded the troops to enforce proration orders even more stringent than those of the Railroad Commission which the Federal district court had just enjoined.⁴⁷ Whatever its purpose, Governor Sterling's action temporarily shifted the theatre of war from the legal to the military field. But this shift was only temporary. On February 18, 1932, in *Constantin v. Smith*⁴⁸ a three judge Federal court launched a counter-attack by enjoining Sterling and his military aides "from enforcing against plaintiffs [Constantin and others] any of their so called military orders" and "from in any manner interfering with the lawful production of oil from plaintiff's property." Again Constantin won his case.

But the injunction was conditional, not absolute. The plaintiff's "before opening their wells to produce more than their neighbors," were required either to show what amount of oil they could produce without physical waste or, preferably, to produce no more oil than the Railroad Commission might find could be produced without waste.⁴⁹ The legal effect of this skirmish was to oust the military and restore the jurisdiction of the Railroad Commission. The original temporary restraining order over which this battle between the judiciary and executive commenced thus became a matter of only theoretical importance, for under the conditions of the permanent injunction the Railroad Commission was restored to control and empowered to issue new orders.⁵⁰

Presumably Constantin sought to restrain Sterling and his aides-de-camp from curtailing production because he expected to reap an

47. See notes 44 and 46, *supra*; note 50, *infra*.

48. Note 46, *supra*.

49. *Id.* at 242.

50. Constantin's original bill of complaint, filed October 13, 1931, was to restrain the enforcement of proration orders issued by the Railroad Commission. Transcript of Record, *Sterling v. Constantin*, *supra* note 20, at 1. Enforcement of these orders was restrained by District Judge Bryant by temporary injunction issued October 28, 1931. *Constantin v. Smith*, *supra* note 46, at 229. But on the very next day Governor Sterling, asserting that the martial law proclamation of August "continued in full force and effect" and that there was "much dissatisfaction among landowners and small operators", commanded his Brigadier General to restrict production to 150 barrels a day. Transcript of Record, *supra*, at 220-221. This was 15 barrels per day less than the allowable set in the order of the Railroad Commission which had just been enjoined, see note 44, *supra*. Whereupon Constantin amended his complaint to include Governor Sterling and his Brigadier General as parties defendant. *Constantin v. Smith*, *supra* note 46, at 229. By the time this amended complaint was heard on January 4, 1932, the orders of the Railroad Commission against which restraint was originally sought had expired. (*Id.* at 230). And as a net result of this shift of defendants the Railroad Commission, under the terms of the permanent injunction, was virtually required again to prorate the field. (*Id.* at 242).

individual balance of advantage from higher relative production.⁵¹ But while *Constantin v. Smith* was on appeal to the Supreme Court of the United States, new orders that were forthcoming from the Commission not only did not increase his allowable but still further curtailed it.⁵² This compelled Constantin to start anew his original attack against proration orders of the Railroad Commission.

This attack was promptly renewed along the old front in *People's Petroleum Producers v. Sterling*.⁵³ Here again Constantin and others pitched "their case as MacMillan⁵⁴ did upon the proposition that the orders assailed are not true conservation orders" but rather "production restrictions." Such restrictions, they argued, were now not only unauthorized but were expressly prohibited by the 1931 revision of the Conservation Act which forbade proration to prevent "economic waste" or "directly or indirectly to limit the production of oil to equal existing market demand."⁵⁵ In July, 1932, the Federal court ordered the plaintiffs to submit further evidence to support their claim that proration had been administered not "with an eye single to conserving waste" but rather "under the powerful and unremitting pressure of the oil industry as a whole for limited production in order to keep prices up."⁵⁶ In October, Judge Hutcheson, speaking for the court, enjoined the Railroad Commission from enforcing the challenged orders whose "settled purpose" and "achieved result" was to keep supply "within market demand."⁵⁷ Again Constantin won his case.

But before the decree was entered another special session of the Texas legislature hurriedly authorized proration predicated upon market demand.⁵⁸ The Railroad Commission thereupon issued orders predicated upon market demand. As might well have been expected,

51. As to Constantin's possible geologic advantage from higher production, see note 45, *supra*. As for possible economic advantage, he alleged that he was losing \$1500 a day or \$45,000 a month by reason of proration. This allegation assumes that with less restraint on production the market price of oil would remain at the same level. But even were the price to fall, if Constantin and others similarly situated were allowed larger production, he probably believed that because of the favorable location of his wells he would be relatively better off than his neighbors to the east. See note 45, *supra*. Furthermore, since his oil was selling at 83 cents per barrel at the time his amended complaint was filed, the price would have to drop a long way before 5000 barrels per well at the reduced price would yield less income than 165 barrels at current prices.

52. See note 44, *supra*.

53. 60 F. (2d) 1041 (E. D. Tex. 1932).

54. *McMillan v. Railroad Commission*, *supra* note 2.

55. Note 53, *supra*, at 1043.

56. *Id.* at 1048.

57. *People's Petroleum Producers v. Smith*, *supra* note 40.

58. See note 2, *supra*.

this effected no appreciable change in the proration quotas.⁵⁹ As for Constantin, after winning every suit, his allowable was a quarter of what it had been when he first commenced his successful litigation. And to cap the climax, on December 17, 1932, by order of the Railroad Commission the entire East Texas field was shut down, ostensibly to permit measurement of "bottom hole pressures."⁶⁰ "Bottom hole pressure" was selected as a more equitable index for allocating quotas than the per well basis previously employed.⁶¹ Incidentally, the shut down followed within a few hours a general cut of twenty-five percent in crude prices.⁶²

II

The Passing of Economic Dictatorship by Martial Law

Just prior to the most recent shut down of the East Texas field by the Railroad Commission, the martial law controversy embodied

59. See note 44, *supra*.

60. (1932) 31 OIL AND GAS JOURNAL No. 31, p. 33.

61. In *People's Petroleum Producers v. Smith*, *supra* note 40, Circuit Judge Hutcheson had held that even if ". . . the statutory prohibition against restricting supply to 'equal existing market demand' . . ." be disregarded, nevertheless proration in East Texas based upon a flat allowable per well ". . . arbitrarily, unjustly, and in a confiscatory way . . ." took the oil of the plaintiffs, favorably situated on the structure ". . . to give it to others not so favorably situated." Note 40, *supra*, at 365. As has been pointed out in a previous article, proration based upon a flat quota per well fails to take into account the size of the tract upon which a well is drilled, the thickness and porosity of the sands underlying it. It violates the fundamental conception of proration that each operator is entitled only to the recoverable oil and gas lying beneath his land. It is a clear case where "political compromise ignores geology." See Marshall and Meyers, *supra* note 1, at 58 *et seq.* It was to remedy this declared inequity that the Texas Railroad Commissioners turned to bottom-hole pressure as a means of according weight to these differences between wells which they had formerly ignored. Theoretically, the pressure at the bottom of an oil well gives some indication of its possible productivity—the higher the pressure the better the well. Practically, bottom-hole pressure is the formula hit upon to measure the productive capacity of a well without running an open-flow test and labeling the result a "potential". It thus avoids the setting up of "potentials" which some have thought exert a depressing effect upon the market (see Pogue, *supra* note 4), but it fails, as do all potential figures, to take into account the size of the tract upon which the well is drilled. See Marshall and Meyers, *supra*.

62. See note 7, *supra*. It is at least questionable whether it was necessary to shut down the entire field merely to measure the pressure at the bottom of certain key wells. "Incidentally or accidentally", the two weeks shutdown kept 5,000,000 barrels of crude off the market. (1932) 31 OIL AND GAS JOURNAL No. 31, p. 33.

in the case of *Constantin v. Smith* was finally passed upon by the United States Supreme Court.⁶³ That case was an aftermath of the previous shut down of East Texas which had been accomplished not by an order of the Railroad Commission for any such purpose as measuring bottom hole pressures, but by a martial law proclamation by the governor for the alleged purpose of suppressing insurrection.⁶⁴ Under this proclamation, troops were maintained in the field even after the field was re-opened under proration orders issued by the Railroad Commission.⁶⁵ The immediate cause of the litigation was the command of Governor Sterling to the troops that they enforce the proration orders of the Railroad Commission after the Commission had been enjoined by the Federal Court from enforcing those orders.⁶⁶ In disposing of the case the Supreme Court sharply rebuked Governor Sterling and affirmed the three judge Federal court which had granted an injunction against this attempted use of martial law "for the purpose and with the result of controlling production."

Governor Sterling's proclamation of martial law had recited that there existed in East Texas "an organized and entrenched group" of oil producers who were "in a state of insurrection against the conservation laws" and causing enormous physical waste; that such waste would result in a decrease of state revenues and an increase in state taxes; that the railroad commission required time to promulgate orders under the recently altered conservation act; that there existed a "state of public feeling" on the "part of indignant responsible citizens that if the state government cannot or fails to protect the public interest and the interest of the land and royalty owners, they will attempt to take the law in their own hands and by force of arms shut down the producing oil wells." These conditions, concluded the Governor, created an existing or imminent "state of insurrection, tumult, riot and breach of the peace" calling for a declaration of martial law.⁶⁷

Courts are agreed that the executive has the exclusive power to determine the necessity of calling out the troops.⁶⁸ If a court

63. *Sterling v. Constantin*, 53 Sup. Ct. 190 (1932). Plaintiffs amended their complaint in the original action of *Constantin v. Smith*, *supra* note 46, to include Governor Sterling and his military aides as defendants after the East Texas field was again placed under so-called "martial law".

64. Proclamation reprinted Transcript of Record before the Supreme Court of U. S., No. 11, *Sterling v. Constantin*, 90-93.

65. See *Constantin v. Smith*, 57 F. (2d) 227, 231 (E. D. Tex. 1932).

66. *Ibid.*, and see note 50, *supra*.

67. *Ibid.*

68. *Luther v. Borden*, 7 How. 1 (1849); *Moyer v. Peabody*, 212 U. S. 78 (1909) [see same case in 148 Fed. 870 (D. Colo. 1906)]; *U. S. v. Wolters*, 268 Fed.

finds that the disturbance constitutes an "insurrection" sufficiently analogous to a state of war, it will gracefully abdicate its jurisdiction to determine the propriety of executive or military orders issued under martial law.⁶⁹ If, however, the court finds that the disturbance has merely assumed such proportions that the local authorities are unable to maintain order, then the troops are regarded as merely "in aid of civil authority" and are subordinate to the civil power.⁷⁰ The orders to the military, while in aid of civil authority, remain subject to review by the civil courts. Governor Sterling, in order to salvage the proration policy endangered by the Federal court's restraining order directed against the Railroad Commission, was forced to claim that the threatened insurrection was so closely analogous to a state of war as to leave the civil courts without power

69 (S. D. Tex. 1920); *Ex parte McDonald*, 49 Mont. 454, 143 Pac. 947 (1914); *In re Boyle*, 6 Idaho 609, 57 Pac. 706 (1899); See also *Martin v. Mott*, 12 Wheat. 19 (U. S. 1827); *Franks v. Smith*, 142 Ky. 232, 134 S. W. 484 (1911); *U. S. v. Fischer*, 280 Fed. 208 (D. Neb. 1922); FAIRMAN, *THE LAW OF MARTIAL RULE* (1930) 84 *et seq.*; Arnold, *Martial Law*, 10 *ENCYCLOPAEDIA OF SOCIAL SCIENCES*.

69. See *U. S. v. Diekelman*, 92 U. S. 520 (1875) (confiscation of silver bullion by General Butler a few days after New Orleans wrested from the Confederate forces); *State ex rel. Mays v. Brown*, 71 W. Va. 519, 77 S. E. 243 (1912); *U. S. v. Fischer*, *supra* note 68 (sentence of civilians to prison by the military, in a period of serious and prolonged labor disorders); *In re Moyer*, 35 Colo. 159, 85 Pac. 190 (1904); *In re Boyle*, *supra* note 64 (detention of civilians by military authorities during a violent labor struggle). But *cf.* *Franks v. Smith*, *supra* note 68 (military officer held responsible for unlawful arrest made by troops called out to check the activities of "night-riders"); *Bishop v. Vandercook*, 228 Mich. 299, 200 N. W. 278 (1924) (military officer held liable for damage to property caused by assisting a sheriff to prevent the transportation of liquor).

70. *Franks v. Smith* *supra* note 68; *Bishop v. Vandercook*, *supra* note 69; *Ela v. Smith*, 71 Mass. 121 (1855). See CONSTITUTION OF TEXAS, Art. 4, § 7: The Governor ". . . shall be the commander-in-chief of the military forces of the State . . . he shall have power to call forth the militia to execute the laws of the State, to suppress insurrection, repel invasion, and protect the frontier from hostile incursions by Indians or other predatory bands." See also Art. 4, §§ 1, 10. Owing to arbitrary executive action in reconstruction days, the Texas Constitution imposes more stringent restrictions upon the Governor's conduct in an emergency than those of most other states. But despite such restrictions, in Texas as elsewhere, it is said that the ordinary constitutional guarantees are automatically suspended—*i.e.*, recognized by a declaration of martial law—in an emergency so like a state of war as to threaten the very existence of the constitution. *State ex rel. Mays v. Brown*, *supra* note 69. Obviously, however, the distinction between martial law and troops in aid of civil authority is more a matter of logic than of fact. Arnold, *supra* note 68 and cases cited note 68, *supra*. But *cf.* FAIRMAN, *op. cit.* *supra* note 68, at 30-39. Relevant statutory provisions may be found in *TEX. STATS.* (Vernon, 1928) §§ 5889, 5778, 5830, 5831, 5833, 5834.

to review his military orders.⁷¹ This application of martial law to the situation in East Texas strained the analogy of "a state of war" to the breaking point. In so far as the alleged "insurrection against the conservation laws" was concerned, the very letters, telegrams, resolutions and editorials which induced the executive to declare martial law, clearly reveal that such insurrection as may have existed was an insurrection against low prices rather than against the "conservation laws."⁷² The Governor's claim of insurrection against the conservation laws was still further weakened by the fact that the insurrection he feared was at most disobedience of proration orders which had already been held invalid in the *MacMillan*⁷³ case as being beyond the scope of any existing conservation law. By the time Governor Sterling was drawn into the *Constantin* case, although the first revision of the conservation act allowed proration, the "insurrectionists" were demanding enforcement of curtailment orders which had been held to have violated the statutory prohibition against proration to market demand.⁷⁴

Governor Sterling, however, also declared that "insurrection, riot and breach of the peace" threatened. After the re-opening of the field under the supervision of the Railroad Commission, so long as the troops were instructed merely to assist in enforcing the orders

71. The Governor's claim was apparently based upon certain leading cases holding that upon a proper declaration of martial law the executive is endowed with the powers of a military commander in time of war. *Commonwealth v. Shortall*, 206 Pa. 165, 55 Atl. 952 (1903); *U. S. v. Fischer*, *supra* note 68; *State ex rel. Mays v. Brown*, *supra* note 69; *Ex parte Jones*, 71 W. Va. 567, 77 S. E. 1029 (1913); *Hatfield v. Graham*, 73 W. Va. 759, 81 S. E. 533 (1914). The latter three West Virginia cases are based upon a statute empowering the Governor to "declare a state of war"; W. VA. CODE (1913) c. 15, § 83. See also FAIRMAN, *op. cit. supra* note 68, at 152-157.

72. This may be seen from extracts taken at random from "*Martial Law in East Texas*," a pamphlet published by the East Texas Chamber of Commerce, reprinting a collection of such letters, etc.; Martial Law ". . . will no doubt save many small producers and refiners from bankruptcy . . . a benediction and a blessing to all of Texas and especially to East Texas (this in a Christmas message to the Governor) . . . the oil producers, royalty and land owners of East Texas are being deprived of hundreds of thousands of dollars daily . . . protecting the future prosperity of this broad locality . . . there was a general feeling of dissatisfaction among the land owners, both at the price received for the oil and delay in receiving payment of royalties." The cause of delay in the payment of royalties was the chaotic state of land titles in East Texas.

73. *McMillan v. Railroad Commission*, *supra* note 2.

74. Prior to the Governor's challenged martial law orders, District Judge Bryant had restrained the enforcement of even less stringent orders issued by the Railroad Commission. Transcript of Record, *Sterling v. Constantin*, *supra* note 20, 1 *et seq.*

of the Railroad Commission, they were clearly acting in aid of civil authorities to suppress possible riot and breach of the peace. But when they later were commanded to enforce as military orders, the very orders of the commission which had been enjoined, they were clearly acting not in aid of but in lieu of civil authorities. To justify these latter orders, Governor Sterling was forced to insist that this was an "insurrection" so like a state of war that he alone was empowered to decide what measure should be taken to suppress it.⁷⁵

The lower court in the *Constantin* case found as a fact that at no time in East Texas had there been "any condition resembling a state of war" since no insurrection or riot had occurred, nor had there been any closure of the courts or failure of the civil authorities.⁷⁶ And although the lower court disclaimed any power to review the discretion of the governor in calling out the troops, it decided that since no state of war had been shown, the troops must necessarily act in aid of civil authorities so as to be subject to the jurisdiction of the civil courts. The Supreme Court reached the same result by a slightly different line of reasoning. It, too, admitted that the executive's determination that military aid is required in an exigency is conclusive. It refused, however, to "undertake to determine the intended significance of martial law and all its possible connotations."⁷⁷ Whatever authority the executive might possess in a case of "insurrection," it took the position that there was here involved only troops in aid of civil authority. Mr. Chief Justice Hughes, speaking for a unanimous court, said:

"The question before us is simply with respect to the Governor's attempt to regulate by executive order the lawful use of complainants' properties in the production of oil. Instead of affording them protection in the lawful exercise of their rights as determined by the courts, he sought, by his executive orders, to make that exercise impossible. In the place of judicial procedure, available in the courts which were open and functioning, he set up his executive commands which brooked neither delay nor appeal. In particular, to the process of the Federal court actually and properly engaged in examining and protecting an asserted Federal

75. See *Constantin v. Smith*, *supra* note 65, at 230, 232.

76. *Id.* at 232. It was formerly thought that a closure of the courts by rioters was the ultimate test of the existence of an insurrection justifying a declaration of martial law as opposed to troops in aid of civil authority, but Professor Fairman suggests that "the criterion of the courts being open or closed is imperfect." FAIRMAN, *op. cit. supra* note 68, at 147. Cf. the two leading British cases, *Ex parte Marais*, (1902) A. C. 109 and *Rex v. Allen*, (1921) 2 Ir. Rep. 241.

77. *Sterling v. Constantin*, *supra* note 63, at 196.

right, the Governor interposed the obstruction of his will, subverting the Federal authority. The assertion that such action can be taken as conclusive proof of its own necessity and must be accepted as in itself due process of law has no support in the decisions of this court." 78

Again Constantin won his case. But his greatest legal victory merely served to dramatize his economic defeat. Governor Sterling by his use of martial law had already achieved his main purpose—delay until such time as the Railroad Commission or the legislature might devise a plan of proration which would be both constitutionally and economically acceptable. Such a plan had been embodied in the revision of the conservation act shortly before the Supreme Court handed down its decision.⁷⁹ And five days after the decision the field was again completely shut in—this time ostensibly to measure "bottom hole pressure."⁸⁰

While Constantin both won and lost, the advocates of economic dictatorship through the medium of martial law suffered a major defeat. They had claimed that they had hit upon a summary procedure of production control which would be immune from judicial attack.⁸¹ It is evident that however conflicting the various concepts of martial law, this use of the military was an attempted extension of martial law beyond its known scope. It sought to deal not merely with disorder but attempted to remove the causes of dissatisfaction. As well order the employer to raise wages to the level demanded by rioting strikers and thus remove the cause of insurrection. The proponents of the use of martial law, after all, were seeking merely a temporary expedient to tide the oil industry over a depression. As expressed by Governor Murray of Oklahoma, martial law was intended to last only until oil reached a dollar a barrel.⁸² Deprived of an artificial and unconstitutional means of temporarily avoiding the larger issue of controlling excess capacity, the oil industry must squarely face the fundamental legal and economic problems of equating productive capacity to market demand.

78. *Id.* at 197. *Cf.* *Russel Petroleum Co. v. Oklahoma Corporation Commission*, reprinted in (1933) 31 OIL AND GAS JOURNAL, No. 39, p. 33, in which the Supreme Court of Oklahoma condemns Governor Murray of Oklahoma for the use of troops not in aid of but in lieu of civil authorities.

79. Note 2, *supra*.

80. Note 60, *supra*.

81. See *Martial Law in East Texas*, *supra* note 72; Governor Sterling is quoted by a newspaper as saying, "The federal courts should not be permitted to throttle the will of the people. This is the State's affair and the federal courts should let the State take care of it." The newspaper adds that this "is another way of telling Uncle Sam to stay in his own backyard—if he has any."

82. See *Marshall and Meyers*, *supra* note 1, at 53.

III

Market Demand And Price

Market demand has now, after several years of experiment, become one of the basic criteria by which are determined both the total production quotas of the states of Texas, Oklahoma and Kansas and the proportion of such quotas to be allocated to the various large pools within those states. In the foregoing states, curtailment to market demand has been expressly or impliedly authorized by statute; in California, despite the failure on referendum of similar legislation, the same result has been achieved through the medium of a so-called voluntary curtailment committee and in other less productive areas, calculation of "market demands" plays an official or unofficial part in limiting individual production to an agreed upon allowable.⁸³

The prescribed method of determining market demand is dual in nature. From statistics furnished by the Federal Bureau of Mines, the Voluntary Committee on Economics of the Federal Oil Conservation Board, and the American Petroleum Institute, the Oil States Advisory Committee makes a forecast of the total demand of the nation for a given period of time, and divides, by a process still best described as "horse-trading," the amount thus derived among the major producing states.⁸⁴ The administrative bodies entrusted with proration meanwhile compile, with occasional variations in procedure "nominations" for each pool of anticipated monthly purchases by the buyers of crude.⁸⁵ Theoretically these latter totals become the

83. See note 2, *supra*.

84. For typical estimates of demand by the Voluntary Committee on Petroleum Economics of the Federal Oil Conservation Board, see Transcript of Record, *Sterling v. Constantin*, *supra* note 20, at 189. For similar findings by the Oil States Advisory Committee together with their recommendations for a division of production among the producing states, see *id.* at 193 *et seq.* The method followed for computing the national demand for crude is based solely upon an estimated demand for gasoline. Thus the crude requirements are determined by computing the amount of petroleum which under average refinery methods will yield the calculated demand for gasoline. It is assumed that the by-products remaining after the gasoline is recovered will be sufficient to satisfy the demand for fuel oils and other petroleum products. Gasoline demand is computed from statistics of motor vehicle registrations, traffic over toll bridges, travel in national parks, etc. Bi-annual reports of the various fact-finding agencies are published in the OIL AND GAS JOURNAL. Also see FEDERAL OIL CONSERVATION BOARD, SURVEYS OF NATIONAL PETROLEUM REQUIREMENTS FOR SEASONAL PERIODS, Government Printing Office, 1930, 1931, 1932; see ELY, OIL CONSERVATION THROUGH INTERSTATE AGREEMENT (1933) 261.

85. See Marshall and Meyers, *supra* note 1, at 65, and weekly field reports contained in volume 31 of OIL AND GAS JOURNAL.

market demand for the different pools.⁸⁶ But "nominations" in some fields have been considered too high and not bona fide proposals to buy. Consequently an "adjustment" of these totals, practically always downward, is made and the resulting figures are prorated among the producing properties for the various pools.⁸⁷ Strangely enough, the sum of the market demands for all the pools in a state approximate the quota agreed upon for that state by the Oil States Advisory Committee.⁸⁸

There is clearly no necessary relation between the "market demand" of the nation, or even of a pool, and a proper rate of flow which will produce oil with the utmost efficiency. Geologists testify that there is both a minimum and maximum rate at which a well should flow to prevent avoidable underground wastes.⁸⁹ As a technical matter, it is conceded that physical waste can best be minimized by according consideration to the geologic peculiarities of each pool. If production geared to "market demand" operates a pool at its optimum, it is merely coincidence.

86. The Oklahoma Supreme Court has recently held that since the statute provides for proration to market demand "from any common source of supply," the commission is not authorized to determine the total demand from a field and prorate such total demand among wells tapping separate sands (i.e., different sources of supply) within a pool. *Wilcox v. Corporation Commission*, Supreme Court of Oklahoma, decided February 15, 1933. Of course this complicates the process of determining "market demand" still further as the commission would have to measure "demand" for crude for each different producing horizon in a pool instead of for the pool as a whole.

87. See (1933) 31 OIL AND GAS JOURNAL No. 33, p. 9. Field reports from both Oklahoma City and East Texas indicate that the "over nomination" has been the rule. See weekly field reports in (1933) 31 OIL AND GAS JOURNAL.

88. It has been argued that it is immaterial in determining demand, whether the start be made with individual pools, the state, or the nation, since the estimates, if accurate, will check throughout. Some states and one proposed uniform proration statute, authorize the state commission to determine market demand for the state as a whole and then prorate that demand among the various pools within the state. See ELY, *op. cit. supra* note 20, at 160, 249. But the experience in "adjusting" nominations (see note 83, *supra*) for pools to tally with the quota for the state, clearly shows the fallacy of assuming that the starting point is immaterial.

89. Although there is much disagreement among geologists as to the most efficient rate of flow for any particular pool, it is apparently not disputed that there is a minimum, as well as a maximum rate for each pool which should be adhered to in order to secure maximum recovery. See testimony of W. P. Haseman, reprinted in Transcript of Record, Champlin Refining Co. v. Corporation Commission, *supra* note 2, 1, No. 122, pp. 183 *et seq.*; (1932) 31 OIL AND GAS JOURNAL No. 19, p. 14 (reporting statements of geologists, testifying in *People's Petroleum Producers v. Smith*, *supra* note 40). And *cf.* MacQuarrie, *Paraffine Problems Found in East Texas Oil Field and Methods of Prevention and Treatment*, a paper delivered before the East Texas branch of the American Petroleum Institute, reprinted *id.* No. 25, p. 14.

But the proponents of proration to market demand have assumed that "market demand" is a "mere gauge of production,"⁹⁰ and that limiting production to market demand merely avoids above-ground storage and possible surface wastes. Thus far they have apparently carried the United States Supreme Court with them. In the *Champlin*⁹¹ case, Mr. Justice Butler upheld the Oklahoma statute and the orders issued thereunder. In his opinion, Mr. Justice Butler seems to find justification for proration to market demand in the alleged avoidance of surface wastes which would otherwise occur because of "serious potential overproduction throughout the United States." Although seemingly aware that there is a relationship between "overproduction" and low prices, he nevertheless insists that proration which prevents "overproduction" has not had the effect of controlling the price of crude. In this case Mr. Justice Butler "puts aside" the contentions that the applicable sections of the statute "contemplates directly or indirectly regulation of prices." He could find nothing nefarious either in the legislative or administrative purpose; and found convincing proof of the purity of purpose in the fact that there was a "great and long continued downward trend of prices contemporaneously with the enforcement of proration." He does admit, however, that if it can be shown that proration orders are "unjust or arbitrary" or proved "*otherwise invalid*" that a different result might follow. This would seem to imply that if a price fixing effect were demonstrated, proration orders might be enjoined.

Despite the contention that market demand is a "mere gauge of production," there is, after all no such thing as demand in a vacuum—there is demand only at a price. The theory of the control of production by proration is predicated upon equating supply to ascertained demand by curtailing supply. But "ascertained demand" can only be determined by reference to price. When there is an alleged surplus of available supply, those who seek to calculate demand must necessarily set a price sufficiently low to attract buyers to absorb that alleged surplus. Conversely, if an overhanging supply is removed from the market, the remaining supply can be disposed of at a higher price; in other words, there would still be enough purchasers to absorb the allowed supply who would buy even at the

90. See Hardwicks, *Limitation of Oil Production to Market Demand*, and Farish, *A Rational Program for the Oil Industry*, papers delivered before the Petroleum Division of the American Institute of Mining and Metallurgical Engineers, reprinted in (1932) 31 OIL AND GAS JOURNAL No. 20, pp. 54 and 12 respectively. And see Ford, *Controlling the Production of Oil* (1932) 30 MICH. L. R. 1170, 1198.

91. Note 35, *supra*.

higher price. So, if supply is set in terms of demand, those who seek to calculate demand must inevitably consider the price range at which that supply will be absorbed. The task of those who control is somehow to restrict supply to satisfy the ascertained demand within the selected price range. Despite the glib talk of the law of supply and demand determining price as if the amounts demanded and the amounts supplied at a particular price were independent of the price in the supply and demand equation, no one of the components of this equation is constant, but each is a variable and varies in terms of the others. Whatever else may be done by judicial exclusion, it is hardly possible to put aside the effect on a price equation of holding constant—*i.e.* by proration—the supply term, no matter how benign the purpose.

As proof that proration had no effect on prices, Mr. Justice Butler accepted the figures of counsel for the state commission showing that “when the first order was made the price was more than two dollars per barrel” but the price “had declined until at the time of trial it was only thirty-five cents.”⁹² These figures appear conclusive enough despite the niceties of the price-equation syllogisms; but a more searching examination of longer and broader price trends raises serious question. Aside from vain speculation over what the price of crude might have been had there been no proration, why is a drop in price to thirty-five cents a barrel at the time of trial selected as the basis of comparison and a subsequent rise to almost one dollar by the time of appeal to the Supreme Court ignored?⁹³ The drop in price of Oklahoma oil in the early stages of proration is satisfactorily explained as being due to the competition of crude from other major producing areas which had not yet perfected proration programs.⁹⁴ When the other producing states perfected proration, there was an almost vertical rise in the price level which was acclaimed by the industry as indicative of the success of proration.⁹⁵ And this occurred at a time when the immediate potential supply was greater than ever before and the total consumption of petroleum products

92. See Transcript of Record, Champlin Refining Co. v. Corporation Commission, Vol. I, part 2, pp. 310-312.

93. See note 7, *supra*.

94. See note 2, *supra*. The Oil States Advisory Committee had not perfected its organization for the co-ordination of proration activity on a national scale until the latter part of 1931. See note 20, *supra*.

95. See table of prices cited note 7, *supra*. It was generally admitted that the low prices prevailing throughout the mid-Continental area in the summer of 1931 were due to the failure of proration in East Texas. The subsequent rise in price dates from the time East Texas was brought under control, first by a martial law shutdown, and subsequently by proration effectively instituted by administrative and executive orders.

was slackening for the first time in recent years.⁹⁶ And if negative proof be needed, in recent months with the failure of enforcement of proration orders, the price structure has again collapsed.⁹⁷ Furthermore, at this time when price indices have steadily pointed downward,⁹⁸ there has been a firming of the cost of crude whenever proration is effectively enforced.

In defense of the contention that proration does not affect price, it is urged that the demand for crude oil is inelastic and can be forecasted with precision regardless of price. It is assumed that the demand for crude is inelastic because the consumption of gasoline, its major product, is not greatly affected by current price fluctuations so much as by the volume of motor transportation.⁹⁹ Even if it should prove true that gasoline consumption is relatively inelastic it does not follow that the demand for crude likewise is inelastic. When the price of crude drops, it attracts speculative demand; large volumes go to storage to await a rise. Low prices stimulate new, though inferior uses, such as furnace consumption, and cheaper, though inefficient refining. And even if domestic demand for crude is assumed to be inelastic, cheap crude encourages export in competition with the low cost foreign fields.¹⁰⁰ No matter what allowance is made for the inelasticity of gasoline consumption, these other outlets for crude, admittedly marginal demand, are affected by and affect price. The pressure of this marginal oil on a market straddled with large overhead costs exerts a depressing effect on the whole price structure. Any scheme of proration by which overhanging supplies are removed from the market affects the price structure.

IV

Price and Conservation

The interrelation of price and proration has created grave administrative difficulties and involves intricate legal questions. Because of its effect on price, proration has done more than merely promote physical conservation; it has resulted in an inter and intra-

96. See REPORT V OF THE FEDERAL OIL CONSERVATION BOARD (1932) 31 *et seq.*

97. See Section I, *supra*, and note 7, *supra*.

98. Cf. SURVEY OF CURRENT BUSINESS (U. S. Department of Commerce, Bureau of Foreign and Domestic Commerce, 1931, 1932).

99. ELY, *op. cit. supra* note 20, at 261 *et seq.* And see STOCKING, THE OIL INDUSTRY AND THE COMPETITIVE SYSTEM (1925) 83-84.

100. STOCKING, STABILIZATION OF THE OIL INDUSTRY: ITS ECONOMIC AND LEGAL ASPECTS, a paper delivered before the American Economic Association in December, 1932.

state struggle for the restricted market. To resolve these problems, two major proposals have been put forward: a "uniform act for oil and gas conservation" has been drafted and an interstate compact between the oil producing states has been proposed.

The Oil States' Advisory Committee is sponsoring a proposed uniform law modeled upon already existing conservation and proration statutes. The proposed law, however, has two unique features; it speaks for the first time specifically of price, and it makes provision for formal interstate coöperation. In respect to price the proposed law provides that in order to prevent "the premature abandonment of wells of settled production" the proper state commission may curtail production until reasonable market demand is at a price at least equal to the "average cost" of production from such wells.¹⁰¹ It is declared that production of oil at less than such "average cost" will cause waste of petroleum still capable of extraction from wells of settled production, lead to inferior and wasteful uses of oil, and discourage the discovery, development and preservation of adequate underground reserves.¹⁰²

101. PROPOSED UNIFORM ACT FOR OIL AND NATURAL GAS CONSERVATION AND INTERSTATE COMPACT, by the Oil States Advisory Committee, 1933. And *cf.* ELY, *op. cit. supra* note 20, at 246 *et seq.* §§ 2, 5.

But average cost as used in the uniform act is ambiguous and susceptible of manipulation. If all that is meant is bare operating cost, the act is sound, for a price no lower than bare operating cost would keep wells on the pump in operation, and the purpose of the act would be subserved. If, however, "average cost" includes interest on investment or something attributed to intrinsic value of the oil, then something more than maintenance of settled wells is intended.

102. *Ibid.* This measure has already been introduced in the legislatures of several oil producing states. It is interesting to note that the revised draft of such a uniform conservation statute, suggested by Mr. Northcutt Ely, Chairman of the Technical and Advisory Committee of the Federal Oil Conservation Board, does not provide for curtailing supply to insure a price sufficient to preserve the wells of settled production. Mr. Ely's proposal merely prohibits waste arising from the production of oil in excess of transportation or marketing facilities or reasonable market demand. Yet Mr. Ely impliedly recognizes the effect of proration to market demand upon price, for in § 5 of his proposed law he provides that while the State conservancy commission "is not authorized to regulate the prices at which oil and products thereof shall be sold . . . it shall, in determining market demand, have reference to the interests of the consuming public and of the oil industry in the maintenance of reasonable prices for oil and its products," *ibid.* And see *id.* at 222, (7) (b) containing a similar provision respecting a proposed Interstate Oil Conservation Board, which is required to estimate national demand "with reference to reasonable prices only, and the necessity for maintenance over the maximum possible period." The draft sponsored by the Oil States Advisory Committee seeks to protect the consumer by requiring the commission in determining when abandonment would be premature "to take into consideration the interest of the purchasing and consuming public in a reasonable price." PROPOSED UNIFORM ACT, *op. cit. supra* note 101, § 2.

The proposed law also makes provision for participation in an interstate compact of the oil producing states;¹⁰³ and is a counterpart of a bill recently introduced in Congress to gain federal participation and consent.¹⁰⁴ The projected proposal would make legitimate the present off-spring of the oil states, the Oil States' Advisory Committee, and also would make it *sui juris*, capable of enforcing its rights. Specifically the proposed interstate compact contemplates (1) the adoption of a fact finding' agency to forecast demand, domestic and foreign, estimate supply, and allocate production quotas; (2) a tacit agreement by each state to abide by the quotas set; (3) agreement by the federal government to limit imports to the quota set; and (4) the future recommendation of uniform conservation laws similar to those embodied in the foregoing uniform act for oil and gas conservation.¹⁰⁵

In this legislative program resulting from the struggle of competing interests for markets, the control of waste implicit in conservation has been forgotten. If the proposed legislation were to be adopted, it promises to do little more than freeze the present methods of operation. And it is extremely doubtful whether the present system of proration has accomplished any appreciable conservation of oil resources. Although a few minor surface wastes may have been eliminated through the delay in production, there is not much prospect of an appreciable increase in the maximum recovery from the great flush fields or decrease in the cost of that recovery. Mere delay in production affects price and has no necessary relation to conservation.¹⁰⁶ As pointed out in a previous article, no mere scheme

103. PROPOSED UNIFORM ACT, *op. cit. supra* note 101, part II. The Act proceeds upon the theory of offer and acceptance. The passage of the proposed Act is declared to be an offer to other states which may be accepted by any other state enacting similar legislation.

104. H. R. Rep., 72d Cong. 1st Sess., Ser. No. 12,076, S. 5258.

105. See notes 103 and 104, *supra*.

106. See Marshall and Meyers, *supra* note 1, Sections V, VI, dealing with proration and unit operation. The question whether proration as practiced over the last few years has made probable the recovery of more or less oil from prorated fields, appears to be a much debated issue among geologists. Judge Hutcheson, in *People's Petroleum Producers v. Smith*, *supra* note 40, at 363, points out that the experts of the Railroad Commission claimed that the East Texas Field is "water-driven" and that the allowable set will maintain a continuous and uniform replacement of oil by water; witnesses for the plaintiffs, on the other hand, testified that the oil is "gas-driven" and that the allowed rate of production will cause great waste and loss in the field. "In fact", said Judge Hutcheson, "so radical are their differences and so contrary their opinions, so voluble, so volatile are most of the witnesses in advancing them, and so equal are they all in cocksureness, that form of knowing which easily mistakes certitude for certainty, that, if we assume . . . them all to have equal theoretical knowledge and equal absence of intention to deceive, the theories as such might

of prorationing will curtail competitive drilling and eliminate the costs of unnecessary off-set wells; nor insure the proper location of wells on the geologic structure; nor maintain an efficient oil-gas ratio and proper rate of flow. Of this the experience of the past year affords ample demonstration. In terms of conservation, even the proposed scheme to preserve the wells of settled production by pegging the price at the average cost of operation of such wells presents a dilemma. To maintain wells of settled production it would be necessary to curtail the flush wells below an efficient rate of flow, and this would stimulate competitive development in flush fields to build up higher relative potentials.

To achieve true conservation a fundamental reorganization of the entire system of production is imperative. Engineers are agreed that scientific production of an oil pool must be predicated upon the geologic structure and not upon fortuitous property lines. There are various legal plans to adapt production methods to the geologic structure; they have been summarized by the term "unit operation." The essential features from a conservation point of view of an equitable scientific plan of unit operation are the placement of wells by contour lines, the apportionment of the production according to boundary lines irrespective of the location of the wells through which production is secured, and the allocation of volume to acreage content.¹⁰⁷ But even if scientific operation of oil pools is secured, paradoxically enough, an unrestrained program of mere scientific exploitation might so increase the supply of crude oil as to further demoralize the market. A demoralized market would force reckless competition between pools; flush fields would force the abandonment of the fields of settled production even though all were operating on a unit basis. Proration must be superimposed upon unit operation to prevent unrestrained flush production from leading to waste.¹⁰⁸

best be held to counterbalance, . . . " Cf. conflict of testimony among geologists on East Texas proration orders, reprinted in (1932) 31 OIL AND GAS JOURNAL No. 19, p. 14. Also, cf. testimony of geologists in Champlin Refining Co. v. Corporation Commission, *supra* note 89. But however much geologists may disagree as to the amount of oil conserved by proration, they are substantially agreed that proration falls far short of anything approaching truly scientific production.

107. *Ibid.*

108. Some have argued that unit operation would stabilize the industry without proration. This assumes, however, that no new fields will be discovered whose efficient rate of flow even under unit operation would be so high as to cause the premature abandonment of fields of settled production. It also fails to provide a mechanism of control if demand slackens, through more efficient refining and use, decline in exports, or fluctuations in the business cycle. Competition between pools may lead to the same kinds of waste as competition between wells.

But proration affects price; proper exploitation to achieve conservation while not price fixing is inextricably linked with price. As the events of the past year demonstrate, the effects of proration on price, while initially attractive from the point of view of investment, defeats itself by stimulating exploration and discovery beyond the rate necessary to sustain the calculated production.¹⁰⁹ Such new discovery disturbs the equilibrium of the price structure, compelling a further reduction in all proration quotas to the further detriment of capital investments. Stringent curtailment of allowables carries with it financial disaster because insufficient volume, even at a "fair price," nets insufficient income to meet fixed charges;¹¹⁰ and insufficient financial support in turn leads to inefficient equipment and operation, causing the very waste which conservation seeks to avoid. In order to avoid this dilemma, one more legal device must be added to secure planned production. "Projects for stabilization and proration must prove futile unless in some way, the equivalent of the certificate of public convenience and necessity is made a prerequisite to embarking new capital in an industry in which the capacity already exceeds the production schedules."¹¹¹ There must be control of new drilling in proved-up fields and checks on

109. New wells completed for the past four years are as follows.

1929	26,356
1930	21,240
1931	12,432
1932	15,021

Of completed wells in 1931 there were 6,778 oil producers; in 1932, 10,444 oil producers—a net gain of 3,656 producing wells in 1932. (1933) 31 OIL AND GAS JOURNAL No. 36, p. 61. For a survey of new fields found during the past year, see note 11, *supra*. And it seems to be more than mere coincidence that (1932) 31 OIL AND GAS JOURNAL No. 23 in its issue published the week after the highest price posting for the year 1932, carried the following headlines: "Wildcatting is Spreading in East Texas and Several New Wells are Scheduled" (p. 34); "Polk County is Getting Another Conroe Play; Wildcatting Stimulated On Gulf Coast" (p. 44); "New Well in Harvey County, Kansas, Good for 5,000 Barrels per Day from Chat" (p. 46); "While Community Well in Noble County Tests Sand, Leasers Keep Busy in Three Counties" (p. 47); "Northeastern Colorado Test Core Bleeding Oil; Failure Reported in South Dakota Wildcat" (p. 49); "Newest Completion in Tuleta Field Looks Better Than Discovery and Imports Fresh Interest" (p. 50); "Increase In Operations in Hobbs Field, New Mexico; Oregon Well Shows Little Oil and Gas" (p. 51); "Wildcat Four Miles Southeast of Conroe Field May Mean Opening of Separate Pool" (p. 57).

110. See note 10, *supra*.

111. Mr. Justice Brandeis dissenting in *New State Ice Co. v. Liebmann*, 286 U. S. 262 (1932). In this connection the American Petroleum Institute has recently stated, "Producing capacity being already far in excess of consuming requirements, there is no public interest in developing new pools, and, therefore, production from new pools should be restricted to the utmost limits of the laws of the states." (1933) 68 OIL WEEKLY No. 9, p. 8.

the opening of new fields, not necessarily that price may be maintained, but that production may not increase beyond a point where it can be efficiently absorbed and used.

It has been the fashion to attribute most of the ills of the oil industry to the stupidity of property law; but the frantic race of speculators to discover new pools, heedless of market conditions, has not been the fault of the law. This is a fault line which runs through our entire economic structure. It is the problem of excess capacity. No plan of unit operation, no scheme of proration, no interstate compact can long insure the stabilization necessary for conservation unless some device is provided to control excess capacity.

Those who oppose proration assert that all "artificial attempts" to control "the natural operation of the law of supply and demand" have proved futile. They draw inspiration for these assertions from the unsuccessful attempts to fix prices in rubber, coffee, copper and wheat. But in these industries the attempt was made to peg price directly without adequate provision for controlling existing supply and preventing expansion of productive capacity which is otherwise stimulated by stabilized price. In oil, proration to market demand coupled with control of drilling prevents potential from becoming actual supply and restricts that supply by reference to some geological criteria to meet a demand based upon some use standard. And since price is a function of these two factors, inevitably conservation affects price. But the price range is a resultant of conservation and does not necessarily guarantee existing capital structures. Nor is proration necessarily a step in the socialization of all large scale industry. Those who urge that the oil industry should be taken over by the state fail as a rule to recognize the difficulties facing administrative bodies in operating the business. Indeed, proration by defining a plane of competition prevents the cut-throat practices and waste which might otherwise compel government ownership. And leaders of the industry have recognized that proration by preventing waste cuts down long-run costs and thus avoids future demand for out-and-out price fixing.

V

Price, Conservation And Control

There can be no pretense that such a comprehensive plan can be adopted by a single stroke. Reorganization of industry is won by hard-fought advances against each entrenched position. Compromise offers brief armistice in the battle between competing vested interests. Only long range observation gives a picture of the whole line of battle and the ultimate objective. From an observation post, the

immediate legislative programs embodied in existing proration statutes, the proposed uniform law and an interstate compact, appear as salients driven toward the objective of planned production.

The uniform law openly, and present proration laws implicitly, recognize the interrelation of price and waste, and the legal basis for control which that affords. The restrictions on the market set up by proration attempt to raise the plane of competition for individuals within a pool and for pools within a state by limiting the volume of production so that minimum price levels are maintained. This imperils the ordinary safeguard of the consumer—the protection allegedly given by free competition. State proration commissions have sought to supplant that protection by the exercise of their control over the market. And as a practical matter impartial control of state proration is as essential in the interest of the producers as in the interest of the consumers. Proration deals with markets, and in the quest for markets the industry is a house divided against itself. Royalty owners want high prices and high volume, and are willing to concede some sacrifice of price to volume; the small operators want high price and high volume, and are willing to concede some sacrifice of volume to price—the divergence of interest arising from the incidence of fixed charges.¹¹² Large integrated operators want high price and low volume when their tank farms are full, but the reverse when there is empty storage; small integrated operators want low prices and high volume to fill their refining requirements from their own wells with low royalties. Large refiners want a stabilized high-price crude so that expensive, efficient refining equipment is necessary to realize a profit, and in this way they hope to freeze out the small competitor; the small refiners want low price crude so that with inefficient but inexpensive refining equipment, cheap crude will permit undercutting of the large refiners. The pipe lines want high volume regardless of price. Material-men and labor want competitive drilling. Major oil states want the present fields protected; the newer oil states want exploration and discovery encouraged.¹¹³ Under the present system of ascertaining market demand of each pool by “nominations,” control of proration is thrown into the hands of but a single group—the buyers. Conservation programs and price structures have toppled in part be-

112. Royalty owners, of course, have no fixed charges. The operator finds the greater fixed charge per unit by decreased production balanced by higher per unit price, and the proportionately smaller burden of royalty payments.

113. In 1929 the federal government removed the public lands, which for the most part lie in the new oil states, from further exploration and discovery. Marshall and Meyers, *supra* note 1. Yielding to the importunities of the far western states, the Department of the Interior on April 4, 1932 announced that oil and gas prospecting permits would again be issued.

cause of internal strife engendered in the industry by the partiality of those in control.¹¹⁴

The oil states have realized that their market is demoralized not only because of internal strife but also because it is nation wide and proration by a single state results in a loss of that state's market. Consequently the Oil States' Advisory Committee was created to control the national market by correlating the proration activities in the various states. But the unofficial, informal bargaining of the oil states through this Committee has proved unsatisfactory to its sponsors. Because the sanctions are purely voluntary, there exists the ever present threat that a state, confronted with tremendous flush production from new development, may be unable to withstand the internal pressure for outlets and will fail to adhere to the agreed quota.¹¹⁵ Furthermore although the quota agreements entered into by representatives of the states and agreed to in the large by the industry have been carefully clothed in innocent vocabulary to escape its clutches, nevertheless the fearsome though now somewhat emasculated federal anti-trust law lurks in the shadows. It is averred that the quotas are merely objective statements of existing demand and serve merely as proof of the accuracy of the arithmetic involved in compiling the nominations for each pool; and that when the sum total of nominations in a state tally with the quota "found" by the Advisory Committee, it is conclusively demonstrated that the "gauge of production" is working efficiently to eliminate "certain artificial friction" in the operation of "the law of supply and demand."

But despite this innocent rationale, the oil states are anxious to secure congressional approval of their combination to curtail produc-

114. For example, it was alleged in the *Champlin Refining Co. v. Corporation Commission*, *supra* note 35, that through peculiar circumstances of pipe line ownership and production control, it was possible for six pipe line companies to favor operators in the Seminole pool by nominating in favor of that pool when prices of oil were high, but allowing the proportional share of the Oklahoma City pool to be increased when prices of crude were below a "remunerative basis." Brief for Appellant, *Champlin Refining Co. v. Corporation Commission*, *supra* note 2, at 16 *et seq.* Also, Transcript of Record, vol. 1, part 2, at 290 *et seq.* In April, 1931, upon testimony of purchasers, the quota for Oklahoma City pool was increased to meet "seasonal demand" (1931) 29 OIL AND GAS JOURNAL No. 49, p. 32. The price at this time for 38° crude was 63 cents a barrel, the same price that was called below "remunerative basis" in the Transcript of Record, *supra*. And the whole system of privately paid umpires is not likely to inspire confidence among those who neither pay his salary nor have much voice in his appointment. Brief for Appellant, *supra*, at 11 *et seq.*, also Transcript of Record, vol. 1, part 2, p. 279 *et seq.*

115. Virtually all major producing states have, officially or unofficially, exceeded the production quotas set by the Oil States Advisory Committee during the past year.

tion. They have therefore proposed the formal interstate compact between the producing states and have sponsored the bill in Congress to obtain the necessary federal consent. Such consent would both satisfy the constitutional requirements and also remove the production of oil from the grasp of the anti-trust law.¹¹⁶ The interstate compact would substitute the control of a hierarchy of state commissions over the market for the control of free competition supported by the anti-trust laws.¹¹⁷

Proponents of the projected interstate compact assert that the hierarchy of state commissions, composed of a central agency which allocates quotas and the state commissions which translate the quotas into allowables, will "collectively exercise their police power in trust for the Nation."¹¹⁸ But, if we must use the language of equity, good equity teaching tells us that in appointing trustees their possible adverse interest must be considered. Recent events show clearly that the oil states are primarily interested in higher prices to obtain higher royalties, higher taxes, and higher wages.¹¹⁹ The current price of crude, like the price of many other commodities may be much too low. But it is questionable whether the eight oil producing states should be allowed the uncontrolled power of insuring their prosperity at the expense of consumers in the forty-eight states.¹²⁰ While it is true

116. UNITED STATES CONSTITUTION, Article 1, Section 10 (3) provides that "no State shall, without the consent of Congress . . . enter into any agreement or compact with another state." Since the anti-trust laws are statutory rather than constitutional in origin, congressional consent to an interstate compact would render them inapplicable.

117. The present bill before Congress for an interstate compact proposes an interstate fact-finding commission to determine national demand. This interstate commission is to be composed of one representative from each of the compacting states, presumably a member of either the state conservation commission or of the Oil States Advisory Committee, and one representative of the federal government. See note 104, *supra*.

118. See REPORT V OF THE FEDERAL OIL CONSERVATION BOARD (1932) 22.

119. The following statement, issued by the Texas Railroad Commission on January 2, 1933 (reprinted in (1933) 31 OIL AND GAS JOURNAL No. 33, p. 8), represents the attitude of the oil producing states: "Our proration orders in the past have saved the oil operators and royalty owners of Texas more than \$2,000,000,000.00, and the oil industry is the only industry during the past mad rush for normalcy and prosperity that has weathered the storm of depressed conditions, and that has tended to lead us aright. It is the only industry that has placed Texas far in advance of any state in surmounting the gravest situation in all history. And for any reason now to lose control . . . would be a severe blight on the name of our state, to say nothing of the enormous tax to our state that would be destroyed and the harsh blow to our public school system and not to mention the great loss to the University of Texas and the A. and M. College."

120. With respect to who paid the taxes and royalties which the Texas Railroad Commission "saved" the State by proration, it is significant to note

that simple proration does not eliminate all competition, it defines a plane of competition, the level of which is all important to the industrial and individual users of petroleum products throughout the nation.

The projected interstate compact represents an old political device used for a new economic purpose. This interstate compact partakes of the nature of an economic alliance between a group of interested states to control a national market rather than the usual agreement between contiguous states to settle some purely regional boundary or water dispute or carry out jointly some clear state function which is not circumscribed by the geographical boundaries of a single state, such as a tunnel or bridge project.¹²¹ Yet this does not mean that an interstate compact is not a proper or suitable legal means of attaining the nation-wide control of oil markets which is so essential a feature of any rational program for achieving conservation. It only points to the necessity of assuring the consuming public sufficient federal or other representation in that interstate commission which forecasts the national demand and allocates domestic and foreign quotas. The proposed interstate compact allegedly does provide such representation but a careful perusal of that bill indicates that federal participation is largely for the purpose of pledging the national government to restrict imports and that in setting both domestic and foreign quotas, the consumer's interest as contrasted with the interest of the oil states could be seriously out voted.¹²²

VI

Legal Basis Of Control

Methods of control of oil production on a national scale rest on different legal bases. Control by the states rests on the police power,

that for the period during which proration was more or less effective in curtailing production—i.e., between July 1, 1931 and July 1, 1932—(1932) 31 OIL AND GAS JOURNAL No. 10, p. 40, reported that "average gasoline prices at filling stations . . . consistently improved." For an analysis of the economic effect of such a transfer of purchasing power upon the general prosperity of the country, see Stocking, note 100, *supra*.

121. For a collection of authorities dealing with the interstate compact, see ELY, *op. cit. supra* note 20, also see MacMahon, Compact-Interstate, 4 ENCYCLOPEDIA OF SOCIAL SCIENCES (1931) 109-113, and authorities there cited.

122. As presented to Congress, the interstate fact-finding body which would determine national demand would be made up of one representative from the Federal Government and representatives from each of the oil producing states ratifying the compact. An amendment to this bill suggested by the Department of the Interior would seek to guard against sectionalism by providing that the compacting states should appoint an interstate advisory body to serve as

indirectly controlled and coördinated by the nation through an interstate compact. Direct control and regulation by the federal government rests generally upon the commerce clause. Under either form of procedure the constitutional problems are not insolvable.

The use by the states of the police power to effect conservation has been amply exploited to indicate a sound constitutional basis for production control. In numerous cases the courts have recognized that restriction of production to prevent waste does not offend due process of law. True, some courts debated whether price is incident to waste or whether waste is incident to price—and indeed Mr. Justice Butler sought to settle the matter by “putting aside” the relationship—nevertheless it can be demonstrated that price effect can not be separated from true conservation, and it is futile to attempt to decide which of two concurrent results is primary. A national program of conservation divorced from price has little meaning. The country has vast resources, and the technology of production, refining, and use is constantly advancing.¹²³ The problem is not that of obtaining oil at any cost, but of having it at a low cost over as long a period as practical.¹²⁴

The decisions sustaining the power to conserve oil furnish ample justification for control to achieve this end so long as the methods employed are impartial and not arbitrary. Narrowly construed, even the *MacMillan* and the *People's Petroleum* cases hold merely that the legislature had not as yet empowered the state commission to prorate to market demand. The only other cases in which proration orders have been invalidated did not deny the power to prorate to market demand but took objection to the inequitable and arbitrary exercise of the power.¹²⁵

a joint committee with such federal agency as the President might designate and that no action “affecting interstate or foreign commerce” might be taken by this joint committee without the concurrence of a majority of Federal representatives. ELY, *op. cit. supra* note 20, at 222.

123. Estimates of oil resources recoverable by present methods have been constantly revised upward during the past twenty years. Since even the most optimistic calculations of recovery by present methods range from 25% to 40% of the reservoir content, technological improvements in recovery would radically increase available oil. Furthermore there are enormous untapped oil resources recoverable from petroliferous shales by distillation and from coal by hydrogenation. In refining, recent developments in cracking and hydrogenation make possible complete utilization of crude. In use, the limits of efficiency have not yet been sighted. In view of all this, “scarcity” has become a “wolf-cry.” This new aspect of conservation has received international recognition. See HEYMAN, *LE NOUVEL ASPECT DU PROBLÈME PÉTROLIER* (1932).

124. Cf. Tryon and Schoenfeld, *Utilization of National Wealth*, part 1, *Mineral and Power Resources*, in I REPORT OF THE PRESIDENT'S RESEARCH COMMITTEE ON RECENT SOCIAL TRENDS (1933) 59.

125. See note 61, *supra*.

The opinion in the *Champlin* case provides the only stumbling block in the way of sustaining control by the states. As has already been pointed out, in that case there is the implication that if a price effect were demonstrated, proration orders might be enjoined. In the immediate future the cases will probably revolve around attempts to prove particular methods of proration "unjust or arbitrary"; and since the *Champlin* decision links "otherwise invalid" with "unjust or arbitrary" there may be attempts to assimilate price effect into arbitrary action. But since price and conservation are so interlinked such attempts seem doomed to failure.

However, the proration programs of the oil states threaten to break down because of the administrative difficulties of enforcement. The present methods have proved onerous upon the operators, expensive and unwieldy, and have not succeeded in stopping the flow of bootleg oil. Although unitization has long been advocated as the only efficient means of preventing the major wastes of production,¹²⁶ it now appears equally essential to achieve effective administration of proration. Unit operation provides self-governing pools. In unitized fields the state need no longer police each well. It would only be required to coordinate the pools within a state. And since unit operation connotes lower capital costs and fair apportionment of production among producing properties, it minimizes the temptation to bootleg and dries up the sources of hot oil. Without some such self-regulatory device, the proration programs of the states are both politically and practically unworkable.

Voluntary unitization has been counseled as the means by which "the difficulties may be adjusted by covenant." But the experience of the past years indicates clearly that the divergent interests of potential covenantors prevent such adjustments by voluntary action. Compulsory unit operation by command of the state is necessary not to enable the state to enter the oil business but to create internal self-government within the pools. Since unit operation affords the most practical means of administering proration, further legal justification for compulsion is thus provided.¹²⁷

But even if the oil states take the necessary steps to plan statewide production by proration, unitization, and control of drilling, coordination of state action is essential to prevent uncontrolled interstate competition which would ultimately force a breakdown of the

126. Oliver and Umpleby, *Principles of Unit Operation* (1930) TRANSACTIONS OF THE A. I. M. E. 105. And see authorities cited in Marshall and Meyers, *supra* note 1, at 59 *et seq.*

127. The legal basis for compulsory unitization has been discussed elsewhere. Marshall and Meyers, *supra* note 1. Cf. German, *Compulsory Unit Operation of Oil Pools* (1932) 20 CAL. L. REV. 111.

entire plan. Coördination is proposed through the interstate compact. Such a correlated state program may need and call upon federal aid. In order to make effective local legislation which would be rendered nugatory unless coördinated through the commerce power with similar local legislation,¹²⁸ the Federal government might well stimulate enthusiasm for the interstate compact by prohibiting the shipment in interstate commerce of oil not produced in accordance with the terms of such a compact.¹²⁹ If all the oil states can not agree to enter into such a compact, the federal government is in a position to make the compact binding with less than unanimous consent following the procedure adopted in the Hoover dam project which was authorized by a compact between all but one of the interested parties.¹³⁰

Fear of extensive federal participation has recently caused a noticeable cooling in the enthusiasm for an interstate compact. Indeed the chairman of the Texas Railroad Commission has openly assigned this as his reason for opposition to the compact and has taken a stand that oil production is a local matter which can best be handled by each state playing a lone hand.¹³¹ But neither Texas nor any other major producing state can transform a problem which has been proved to be national in scope into an issue of purely local

128. MacMahon, *supra* note 121.

129. To engender desire on the part of producers to conform to conservation plans, Congress might amend the income tax act to reestablish the old flat allowance of 5% for depletion [38 Stat. 166 (1913)] for those producers employing wasteful methods, and to permit the present 27½% (U. S. REVENUE ACT of 1932 § 114 (163)) allowance to efficient producers. The difference in the method of production would be a sufficient justification for the reclassification. The present 27½% depletion rate admittedly partakes of the nature of a bounty specially granted for gas and oil operators to stimulate development of natural resources. See *Palmer v. Bender*, 53 Sup. Ct. 225 (1933).

130. BOULDER CANYON PROJECT ACT, December 21, 1928 c. 42 [45 STAT. 1057 (1928)]. This act approved the Colorado River compact, which had been provided for by an earlier act of Congress [42 STAT. 171 (1921)], and which had been signed by the state commissioners and the federal representative to become effective when ratified by Congress and the legislatures of all of the states concerned. Arizona had refused to approve the compact; and the new act provided that the agreement should go into effect upon its ratification by the legislatures of California and five of the six other southwestern states. All except Arizona ratified the compact and the Boulder Canyon Act was accordingly declared to be in effect. [49 STAT. 20 (1929)]. This procedure was approved by the Supreme Court in *Arizona v. California*, 283 U. S. 423 (1931).

131. The reply of Public Service Commissioner Hill of Kansas to this statement indicates the futility of attempting to curtail oil production on a local scale. Said Mr. Hill: "There may come a time when Texas will discover the need of co-operation. In the not far distant future the oil fields of Western Kansas will control the oil market and if we adopt the same provincial policy, Texas will regret her isolation." 31 OIL AND GAS JOURNAL (1933) No. 35, p. 40.

significance. Furthermore, the alternatives presented to the producing states are not proration or no proration, a compact or no compact. **Rather they must decide whether they will retain a voice in the control of production through proration coupled with an interstate compact or have the nation, through the Federal government, superimpose that control.**

But whether the oil states act in concert or not, they must expect eventual federal provision for consumer protection. Proration plans which seek to restrict production to market demand run afoul of the anti-trust laws. Where "price dominates trade between states," regulation of local business practices, themselves not a part of the stream of commerce but which directly affect the price of commodities moving in interstate trade, has been sustained.¹³² The Supreme Court has asserted that "if Congress deems certain recurring practices, though not really part of interstate commerce, likely to obstruct, restrain or burden it, it has the power to subject them to national supervision and restraint."¹³³ Combinations or conspiracies in restraint of trade by producers do not escape the federal law on the ground that their functions are not interstate in character;¹³⁴ nor can they achieve immunity because a state aids or abets them in order to control local oil production.

The proposed interstate compact would take the conservation program out of the scope of the federal anti-trust law. But the

132. *Chicago Board of Trade v. Olsen*, 262 U. S. 1 (1923). *Cf. Stafford v. Wallace*, 258 U. S. 495 (1922).

133. *United Mine Workers of America v. Coronado Coal Co.*, 259 U. S. 344 (1922). It is significant that in the first Coronado coal case, *supra*, the Supreme Court refused to assess triple damages against a labor union under the Sherman anti-trust act. It declared that "coal mining is not interstate commerce, and the power of Congress does not extend to its regulation as such," and "obstruction to coal mining is not a direct obstruction to interstate commerce." Yet when in the second Coronado case (*Coronado Coal Co. v. United Mine Workers*, 268 U. S. 295 (1925)), the plaintiff presented evidence of a substantial reduction in the flow of coal in interstate commerce, the court reversed a directed verdict in favor of the defendants and said: "The mere reduction in the supply of an article to be shipped in interstate commerce by the illegal or tortious prevention of its manufacture or production is ordinarily an indirect and remote obstruction to that commerce. But when the intent of those unlawfully preventing the manufacture or production is shown to be to restrain or control the supply entering and moving in interstate commerce, of the price of it in interstate markets, their action is a direct violation of the Anti-Trust Act."

134. *Standard Oil Co. v. United States*, 221 U. S. 1 (1911); *United States v. American Tobacco Company*, 221 U. S. 106 (1911). *Cf. Pennsylvania v. West Virginia*, 262 U. S. 553 (1922); *West v. Kansas Natural Gas Co.*, 221 U. S. 229 (1910). *Foster-Fountain Packing Co. v. Noydel*, 278 U. S. 1 (1928). But *cf. ELY, op. cit. supra* note 20, at 270.

oil states and the industry can not seriously expect the federal government naively to abdicate its power and duty to protect the consumer. Rather, we may expect to see in the near future a definite federal policy for oil and other raw materials. Control of production such as is essential to a sound conservation policy will be permissive, but in order to obtain immunity from the existing federal anti-trust laws,¹³⁵ approval of a projected conservation program will have to be obtained from a reconstituted Federal Trade Commission or some other designated federal agency. This would effectively place the determination of supply and demand, and price, in impartial hands. To justify its decisions, such an agency would have to ground its findings on sound conservation policy. Demand would have to be gauged in terms of efficient use.¹³⁶ Existing supply would have to be estimated according to objective engineering data on volume of production at a scientific rate of flow of the existing wells, with due regard to oil-gas ratios. More intensive exploitation of the known fields or the discovery and opening of new fields would have to depend upon whether the existing capacity production adequately fulfilled the demands of efficient users.

If the oil states do not avail themselves of the opportunity to reorganize production under state auspices, they may expect a definite drive for federal control independent of the states. Legally such federal control may be achieved by a variety of means. The national government might proceed directly under the commerce power to regulate the transportation in interstate commerce of oil not produced according to a conservation plan which would include permits for development, compulsory unit operation, and proration.¹³⁷ Or Congress might look beyond the physical stream of interstate commerce so as to regulate directly the production of oil. In lieu of the negative prohibitions of the anti-trust acts to maintain com-

135. As an alternative, proration could be attacked on the ground that it burdens interstate commerce. *Cf.* *Pennsylvania v. West Virginia*, *supra* note 134. But *cf.* *Champlin Refining Co. v. Corporation Commission*, *supra* note 35; *ELY, op. cit. supra* note 20, at 67 *et seq.*

136. Efficient use embraces, of course, the many steps leading from the oil well to the consumer. To take but one example, inefficient skimming plants located in flush fields can cause as much "waste" as inefficient production. And while the present Texas law denying the commission power to hold "any mode, manner or process of refining crude constitutes waste" (*supra* note 27, at art. 6014 K), may be justified on the ground that it seeks to simplify the present problem, such considerations cannot ultimately be excluded from the content of "demand."

137. See Stanley, *The Drama of the Oil Industry—Calling for Federal Regulation* (1931) 56 A. B. A. REP. 669. Ford also suggests both the use of the war power, since oil is a military necessity, and the treaty power. Ford, *op. cit. supra* note 90.

petition, Congress might enact positive regulations of productive practices which affect interstate commerce. The interrelationship of conservation and the market is clear. Wasteful production can burden the consumer in the market as much as conspiracy and combination.¹³⁸ The anti-trust laws protect interstate commerce against the burden of the latter; positive regulation to achieve conservation would protect interstate commerce against the burden of waste. Constitutionally it is no more illogical to give the federal government control over conservation to protect the market than to give the state control over the market to protect conservation.

The country is already well committed to a policy of conservation of this natural resource. The proposals here made are merely the results of the logic of such a policy. That they will bother the professors of "free enterprise" is obvious. And any control of production by other standards would not be conservation but concessions to the vested interests in the production business. That such a program as here outlined may not guarantee the present investments in uneconomic wells is both painful and patent.

138. Cf. *Standard Oil Co. v. United States*, and *United States v. American Tobacco Company*, both *supra* note 134; *Northern Securities Co. v. United States*, 193 U. S. 197 (1904).

It has been asserted that because oil production is like mining and manufacture it is not subject to federal regulation under the commerce power. Yet it is significant that notwithstanding *United States v. Knight*, 156 U. S. 1 (1894) which first held that since manufacturing was not interstate commerce, combinations of manufacturers could not restrain it, the Supreme Court subsequently in the *Standard Oil* and *Tobacco* cases dissolved a combination of manufacturing which was shown to effect interstate markets. Furthermore, the decisions most frequently cited to prove that production is not interstate commerce have not involved an issue of federal versus state regulation. Rather they represent attempts to preserve a state's power to tax producers who sought to escape state taxes. *Husler v. Thomas Colliery Co.*, 260 U. S. 245 (1922) (anthracite coal); *Oliver Iron Mining Co. v. Lord*, 262 U. S. 172 (1923) (iron ore); *Hope Natural Gas Co. v. Hall*, 274 U. S. 284 (1927) (natural gas); *Utah Power and Light Co. v. Pfoest*, 286 U. S. 165 (1932) (electricity). Or they have been instances where a refusal to allow the state to regulate would have then left the entire field of activity go unregulated. *Kidd v. Pearson*, 128 U. S. 1 (1888) (intoxicating liquor); *Crescent Cotton Oil Co. v. Mississippi*, 257 U. S. 129 (1921) (cotton gins); *Champlin Refining Co. v. Corporation Commission*, *supra* note 35 (oil). The vast majority of federal statutes predicated upon the commerce power have been upheld. See GAVIT, *THE COMMERCE CLAUSE* (1932) Appendix A, B, C (summarizing all the Supreme Court cases dealing with commerce clause). But cf. *Hammer v. Dagenhart*, 247 U. S. 251 (1918). Indeed, so wide is the discretion permitted Congress under the commerce power that it is now proposed to ground federal regulation of holding companies upon the commerce power. See Smith, *Federal Regulation of Light and Power Companies* to appear in a report of the Interstate and Foreign Commerce Committee of House of Representatives, 72nd Congress, 1st Sess.