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Volume Title: Minimum Price Fixing in the Bituminous Coal Industry

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Volume Publisher: UMI

Volume ISBN: 0-87014-191-0

Volume URL: <http://www.nber.org/books/fish55-1>

Publication Date: 1955

Chapter Title: DEVELOPMENT OF COORDINATED MINIMUM PRICES

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Chapter URL: <http://www.nber.org/chapters/c2887>

Chapter pages in book: (p. 177 - 281)

CHAPTER VIII

DEVELOPMENT OF COORDINATED MINIMUM PRICES

THE proposed price schedules submitted for the 22 districts were developed by district boards each of which generally disregarded the coals of other fields and acted as though its district were an independent producing area. As pointed out earlier, this explains, in part, why the various schedules display little uniformity in the terminology used, the size groups proposed, the factors considered in appraising coals, and the quality classes recommended.

The proposed prices may be regarded as having been formulated primarily to show value relationships within the various districts. The problem confronting the boards was to submit for their respective districts price structures which would bring the prices of the different grades and sizes of coal into proper alignment in terms of inherent qualities, general market considerations, and types of consumers. The proposed schedules, therefore, established a single price for each grade and size of coal regardless of where it was produced in the district or the market to which it was to be shipped.

Because the coals of one district were sold in competition with the coals of other districts and often with other forms of fuel, the prices resulting from district evaluations of coals had to be further considered in terms of interdistrict factors and conditions. In other words, to ensure that the coals of any district could continue to sell on a fair competitive basis in any market in which they had been accepted, all the prices of coals of the competing districts had to be coordinated in common consuming markets. To attain coordination it was necessary (1) to determine competing districts and the markets to which the various coals were shipped, (2) to correlate these coals by comparable size groups including use classes in each common market, (3) to determine minimum selling prices in particular markets and establish f.o.b. mine prices for coals shipped to these markets, and (4) to ascertain whether the realization per ton which would result from the proposed selling prices would "approximate the weighted average of the total cost per net ton" of the minimum price area involved.

A. *Criteria to Be Used in Developing Coordinated Prices*

It was the intention of the framers of the Bituminous Coal Act of 1937¹ to have the coordination of prices undertaken by the dis-

¹ 50 U.S. Stat. at L. (1937), 72. See Appendix G below.

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trict boards under rules and regulations set forth by the Commission. When it became apparent that most of the district boards would not be able to accomplish this task, the Commission itself assumed the responsibility under the authority conferred in Section 6a.²

The authorization for the coordination of proposed prices was set forth as the opening sentence of Section 4-IIb of the Act which read: "District boards shall, under rules and regulations established by the Commission, coordinate in common consuming market areas upon a fair competitive basis the minimum prices and the rules and regulations proposed by them, respectively. . . ." It will be observed that the coordination was to be made in "common consuming market areas" and was to be worked out on "a fair competitive basis." Neither of these terms, which were used twice more in the statement on coordination of proposed minimum prices, was defined by the Act.

The Act provided that the following factors and criteria were to be taken into account in the development of coordinated minimum prices (Sec. 4-IIb):

"Such coordination, among other factors, but without limitation, shall take into account the various kinds, qualities, and sizes of coal, and transportation charges upon coal. All minimum prices proposed for any kind, quality, or size of coal for shipment into any common consuming market area shall be just and equitable, and not unduly prejudicial or preferential, as between and among districts, shall reflect, as nearly as possible, the relative market values, at points of delivery in each common consuming market area, of the various kinds, qualities, and sizes of coal produced in the various districts, taking into account values as to uses, seasonal demand, transportation methods and charges and their effect upon a reasonable opportunity to compete on a fair basis, and the competitive relationships between coal and other forms of fuel and energy; and shall preserve as nearly as may be existing fair competitive opportunities."

It will be noted that, although much of the foregoing covers the same ground as the paragraphs which deal with uncoordinated prices,³ certain new and important considerations have been added,

² "In the event that a district board shall fail, for any reason, to take action authorized or required by this Act, then the Commission may take such action in lieu of the district board."

³ Sec. 4-IIa. See also the discussion in Chapter VII.

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namely, "common consuming market areas,"⁴ "transportation charges," "transportation methods," and "competitive relationships between coals and other forms of fuel energy."

The new prices that were to be established for any district were to be related to the weighted average cost of the minimum price area in which it was located. What that relationship was to be is stated below:

"The minimum prices proposed as a result of such coordination shall not, as to any district, reduce or increase the return per net ton upon all the coal produced therein below or above the minimum return as provided in subsection (a) of this section by an amount greater than necessary to accomplish such coordination, to the end that the return per net ton upon the entire tonnage of the minimum price area shall approximate the weighted average of the total cost per net ton of the tonnage of such minimum price area." (Sec. 4-IIb.)

Ideally the average of the coordinated prices in a given district should equal the average of its uncoordinated prices which in turn should equal the weighted average cost of the minimum price area. In practice, however, some allowance was necessary for the upward or downward adjustments necessitated by the coordination process.

The coordinated prices and the data upon which they were based, as well as rules and regulations pertaining to them, had to be submitted to the Commission, which was then required to "establish, and from time to time, upon complaint or upon its own motion, review and revise the effective minimum prices and rules and regulations in accordance with the standards set forth in subsections (a) and (b) of Part II of this section [4]."

We see then that the proposed minimum prices had to be coordinated in common consuming market areas and that such coordination had to be upon a fair competitive basis. In carrying out the coordinating process, account had to be taken, but without limitation, of the following factors:

- Various kinds, qualities, and sizes of coal,
- Transportation charges,
- Values as to uses,
- Seasonal demand,
- Transportation methods,

⁴ This factor was listed in Sec. 4-IIa as one to be considered in establishing uncoordinated minimum prices, but, as pointed out in the preceding chapter, it was for practical purposes ignored by the boards in the first stage of the price-fixing procedure.

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—Competitive relationships between coals and other forms of fuel and energy.

The resulting prices were to be minimum f.o.b. mine prices and were to be obtained by subtracting the applicable freight rates from the destination prices. These prices had to: be just and equitable, and not unduly prejudicial or preferential, as between and among districts; reflect, as nearly as possible, the relative market values, at points of delivery in each common consuming market area, of the various kinds, qualities, and sizes of coal produced in the various districts; afford a reasonable opportunity to compete on a fair basis.

Finally, the estimated realization of these prices had to be checked against the weighted average cost of the minimum price area in order to be sure that the difference between these two items was not greater than necessary to accomplish such coordination.

1. WHAT WAS INVOLVED IN COORDINATION

To coordinate the proposed minimum prices submitted by the district boards, the Commission found it necessary:

To determine common consuming market areas.

To ascertain, first, the tonnage of competing coals entering each market area for each size, kind and quality, and use class, and, second, the tonnage carried by various forms of transportation, that is, rail, lake, river, ocean, truck, or by some combination of these methods.

To select a representative destination (in some instances destinations) for each market area.

To select base coals, well known in all districts supplying the market area, preferably coals sold in substantial tonnages.

To ascertain a destination minimum price for the base coal of the district shipping the largest tonnage to the market area.

To coordinate the various coals at destination prices, taking into account the factors and criteria set forth in the Act.

To ascertain coordinated minimum prices, f.o.b. mine, by subtracting the applicable freight rates from the destination prices.

To check and adjust where necessary the estimated realization against the weighted average costs of the minimum price area involved.

To hold public hearings and to review and revise prices as required.

The above nine steps are presented only as a synopsis. It may be useful to elaborate the procedure followed under each of

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these steps so that this outline of the coordination process may become more meaningful.

a. *Determining common market areas.* The Coal Division defined a common consuming market area as "a geographical region or subdivision in which the coal consumed therein is shipped by two or more producers from the same or different districts on a competitive basis."⁵ The principal factor affecting the size, shape, and location of most market areas is the nature of the freight rate structures governing the shipment of coal by rail into these market areas.⁶

The boards were told that, in establishing common consuming market areas, they should first "determine the consuming market areas into which each District ships" and then ascertain, determine, and identify the "common consuming market areas."⁷ The ultimate determination of common consuming market areas devolved, like price coordination, upon the Commission, but for the most part the areas were substantially those that had been chosen by the representatives of the district boards.

The market areas drawn up in 1937 to accompany the first short-lived price schedules were not based upon detailed figures of coal distribution. In the spring of 1938, however, very extensive and detailed data were collected on the distribution of coal for the calendar year 1937. As such distribution reports became available they were considered, along with the facts of freight rate zones, in determining the 177 common market areas⁸ described in the list of areas published on April 24, 1939.⁹ This information helped to give the Commission a better understanding of the competitive patterns of the industry. Just before the coordinated minimum prices went into effect a revised list of market areas, numbering 186, was published.¹⁰ The number was subsequently increased to 193 (see Map 1).

⁵ *Report, Proposed Findings of Fact, Conclusions and Recommendations of Trial Examiners*, as revised (General Docket No. 15), Bituminous Coal Division, April 1940, p. 53.

⁶ A discussion of the bearing of freight-rate structure upon market area determination and of other factors affecting the creation of market areas is given in Chapter V.

⁷ From Orders 253, 259, and 264 published in the *Federal Register*, December 14, 1938, p. 2999; January 18, 1938, p. 262; and February 25, 1939, p. 1011.

⁸ According to the *Report . . . of Trial Examiners*, p. 54, there were 179 areas, but that figure apparently included two areas, Nos. 51 and 233, which had been deleted.

⁹ *Federal Register*, May 4, 1939, pp. 1831-54.

¹⁰ *Ibid.*, August 30, 1940, pp. 3445-67.

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b. *Distribution of coal in 1937.* The distribution survey for the calendar year 1937¹¹ was based upon three questionnaires: Form D-1 for rail- and river-connected mines, Form D-2 for truck mines, and Form D-3 for coal distributors who could provide data otherwise unobtainable. Because 96 per cent of the total national tonnage of bituminous coal moves by rail or river,¹² the D-1 questionnaire was of predominant importance. Each rail or river mine was directed to show on Form D-1 the tonnage of every size of coal shipped, the points of destination, and the destination railroads. Each shipment listed was to be marked to show whether the coal was raw or washed (including air cleaned). The tonnages were to be identified as to the intended use of the coals (railroad fuel, by-product plants, bunker or vessel fuel, export overseas, or "all other uses"). The companies were also asked to report for all shipments, including local sales, the form of transportation employed in each instance, that is, by tidewater, lake, river, all-rail, or truck. Finally, the Commission requested precise information on the screening arrangements at each mine and the tonnage by sizes of coal that were treated chemically (by calcium chloride, oil, wax, or other agents).

We have already pointed out that summaries of these data were used in the determination of common consuming market areas. In the section below will be seen how these data were of use in other phases of the price coordination process.

Two sets of data, those on the quality of each coal and those pertaining to seasonality, were not collected on the distribution forms. Information about quality of coal was obtained from special questionnaires filled out for the Commission by the producers. Data on seasonality came from the statistical series called "Distribution of Coal Shipments."¹³ There were, however, no detailed figures on

¹¹ "The calendar year 1937 was chosen as the period during which the distribution of coal should be surveyed because it was the latest full year available (therefore embodying all seasons); was characterized by substantial production and sale; the production during 1937 was the largest since the beginning of the Depression and was almost identical with that during 1936, the base year specified by the Act for use in determining weighted average costs; the year 1937 was relatively free from labor difficulties and reflected the steady increase in mechanical cleaning and chemical treatment of coals, regarding which the latest data were required; finally, the methods involved in the survey required the reporting producers to consult records which might be unavailable for any year earlier than 1937." (*Report . . . of Trial Examiners*, pp. 29 and 30.)

¹² *Ibid.*, p. 31.

¹³ This monthly service, begun under the title "Monthly Coal Distribution Reports" in August 1931 by the Bureau of Mines, contained informa-

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the seasonality of shipments, by district of origin, to retail dealers.

c. *Representative destinations.* It is permissible, for many purposes, to think of coals competing in common consuming market areas. For price coordination purposes it was necessary to choose a destination *point* rather than a destination *area*. This distinction was imperative, because delivered prices were to equal the mine price plus the freight rate, and freight rates are often established not in terms of market areas but in terms of destinations. Therefore, it was necessary to coordinate prices at some *point* of delivery that would be typical of the market area in which it was located. This point was called a *representative destination*.¹⁴ At such a destination, the competitive situation had to be reasonably "typical of that generally prevailing throughout the area" and had to reflect "the competitive conditions which had dictated the creation of that Market Area." Moreover, "whenever possible a representative destination" had to be one "in which there was consumed, in large tonnages, the widest variety of the kinds, qualities and sizes of the coals shipped into the Market Area as a *whole* from the various competing districts."¹⁵ For example, all the sizes and grades of coal competing in Market Area 4 were found also in the Area's representative destination, Buffalo. In Market Area 2, many of its classifications of coal were shipped to Philadelphia, its representative destination.

d. *Base coals.* The next step in the coordination process was to choose, from the coals each district shipped to a given market area, one or more important base coals which would first be assigned market prices. For this purpose, "coal" meant a coal of a specified grade from a particular seam or locality. In coordinating the minimum prices for Market Areas 1 and 2, the Coal Division found it desirable to choose 23 "base coals" produced in the six districts (Nos. 1, 2, 3, 6, 7, and 8) competing in those market areas (see Table 32).

For purposes of describing the coordination process we shall use the coals of Districts 1, 2, and 3 because they were the most im-

tion sufficiently detailed for determining the seasonality of coal shipments. These reports were not, however, compiled in terms of Coal Commission districts and market areas.

¹⁴ It sometimes happened that more than one "representative destination" was necessary to reflect a complex competitive situation within a market area. Thus, in Market Area 5 in northwestern Pennsylvania the towns of Warren and Corry were chosen as the "representative destinations." (See *Report . . . of Trial Examiners*, p. 408.)

¹⁵ *Ibid.*, p. 78. Italics supplied.

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portant in terms of tonnage shipped.¹⁶ Of the 14 base coals from these districts those used most generally for price coordination were: District 1, the E Coal; District 2, the Youghiogheny-Westmoreland C Coal; and District 3, the Pittsburgh low-sulphur D coal.

TABLE 32
Number of Base Coals Used in Coordinating Prices in Market Areas 1 and 2

<i>Producing District</i>	<i>Base Coals</i>
1 Eastern Pennsylvania	4
2 Western Pennsylvania	5
3 Northern West Virginia	5
6 Panhandle (West Virginia)	1
7 Southern Numbered 1	3
8 Southern Numbered 2	5
Total	23

Source: *Report, Proposed Findings of Fact, Conclusions and Recommendations of Trial Examiners* (General Docket No. 15), Bituminous Coal Division, as revised, April 1940, pp. 301-2.

e. *Principal base coal.* Instead of pricing simultaneously all the base coals from the districts involved in a particular coordination, the Coal Division began the process by pricing the *principal* base coal of the market area—usually the one representing the district whose shipments to the given market area exceeded those of any other district. What was needed for coordination was a minimum price for the principal base coal delivered at the representative destination of the given market area. To arrive at this price, the Coal Division first decided upon the f.o.b. mine price of the principal base coal for shipment to the given market area. In Market Area 2, for example, the preponderant all-rail tonnage was shipped by District 1, and since this district's E grade was its most important coal, it was chosen as the principal or primary base coal for price coordination in this area.

On the basis of the factors described below, the Coal Division found that \$2.05 per net ton was the proper price, f.o.b. mine, for

¹⁶ The tonnages of all-rail coal shipped in 1937 were:

<i>From District</i>	<i>To Market Area 1</i>	<i>To Market Area 2</i>
1	589,659	10,190,733
2	70,553	3,209,054
3	125,240	5,067,066
6	0	59,758
7	6,056	293,708
8	4,599	323,094
Total	796,107	19,143,413

Report . . . of Trial Examiners, p. 298, note 84.

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the ¾" × 0" grade E coal of District 1 for rail shipment into Market Area 2, and recommended its establishment.¹⁷ By adding to this price the railroad freight of \$2.52 to Philadelphia (the representative destination of Market Area 2), a delivered price of \$4.57 at Philadelphia was obtained for the specified coal.

The f.o.b. mine price of \$2.05 for this coal reflected:

- The comparative distribution by size groups of the base coals and of competitive coals within and without District 1,
- Competition among such coals,
- Competition between coal and other forms of fuel and energy,
- The requirement that due consideration be accorded the interests of the consuming public,
- The necessity of achieving the realization approximating as nearly as possible the weighted average cost per net ton for Minimum Price Area 1,
- And other considerations.¹⁸

f. *Procedure used to coordinate prices of competing base coals.*

The Coal Division had at this stage to determine how the prices of the competing base coals were to be related to the price set for the principal base coal. This step, the heart of the coordination process, will be explained in terms of the illustrative materials given above.

The Coal Division decided that the C coal of Youghiogeny-Westmoreland in any given size was equal in value to the Pittsburgh low-sulphur D coal of the same size.¹⁹ Thus, these coals of Districts 2 and 3 were given equal prices in Market Area 2.

How were these two coals to be related to the principal base coal, grade E, of District 1? They were related in different ways according to sizes. The coordinated prices (at destination) for three sizes of coal were as follows:

*Prices Delivered All-Rail at Philadelphia
(dollars per net ton)*

<i>Coal Size</i>	<i>District 2</i>		<i>District 3</i>
	<i>District 1</i>	<i>Yough.-West.</i>	<i>Pitts.Low-Sulphur D</i>
	<i>E</i>	<i>C</i>	
¾" × 0" slack	4.57	4.52	4.52
Run-of-mine	4.77	4.77	4.77
4" lump	5.02	5.07	5.07

¹⁷ *Ibid.*, p. 304.

¹⁸ *Loc.cit.* The Trial Examiners listed the same factors in their explanation of how the prices of the principal or primary base coal were determined in other districts and market areas.

¹⁹ *Ibid.*, p. 307. Of the two coals, the former was superior in having a higher ash-softening temperature and a lower volatile content. It was in-

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How the destination price of \$4.57 was assigned to District 1's E coal of $\frac{3}{4}$ " \times 0" was discussed above. After careful consideration of all the competitive relationships of these three sizes of coal, the Coal Division priced the District 1 run-of-mine size \$.20 above the $\frac{3}{4}$ " \times 0" slack and priced the 4" lump \$.25 above the run-of-mine.²⁰ Applying these differentials to the \$4.57 price gave \$4.77 and \$5.02.

On the first line of this insert table it is seen that the base coal of District 1 was priced \$.05 above its competitors. The Coal Division established this relationship because the Btu content of the former was greater than that of the other coals and because the E coal had generally commanded a higher price than the others in this market area.²¹

In the case of run-of-mine coal, however, the superiority of the E coal of District 1 was no longer in evidence. The quality of this coal decreased as size increased, whereas that of its two competitors did not. Therefore, the Coal Division proposed that all three coals in the run-of-mine size should sell at equal prices.²²

Turning now to the 4" lump, we find that the E coal of District 1 was priced \$.05 below its two competitors. This differential was granted to District 1 because its E coal in this size was "analytically, structurally, and in burning characteristics" inferior to those of the base coals of the other two districts.²³

The matters considered in connection with these three coals did not, of course, exhaust the possibilities. Other basic factors taken into account in developing the delivered price relationships were said to be:

Proximate analyses.

Physical characteristics (size consist, preparation, friability, uniformity, color, general appearance, dustiness or dirtiness, capacity for stoking, and tendency to absorb moisture).

Burning characteristics (caking and coking tendencies, clinker-forming tendency, ability to burn freely).

Adaptability to different uses and different types of burning equipment.

Market histories.

Transportation methods and rates.²⁴

ferior in having a lower Btu content. These advantages and disadvantages appeared to cancel out.

²⁰ *Ibid.*, p. 132.

²¹ *Ibid.*, pp. 309-10.

²² *Ibid.*, pp. 311-12.

²³ *Ibid.*, p. 312.

²⁴ *Ibid.*, pp. 81-82. The meaning of "size consist" is discussed in Chapter VII, note 29.

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It should be understood that the remaining base coals not discussed above were coordinated in a manner similar to that indicated for the three coals selected for illustrative purposes.

g. *Prices f.o.b. mine.* After the delivered prices of the base coals of any given market area had been coordinated at the representative destination, the computation of the corresponding mine prices became a relatively simple matter, viz., to deduct from the delivered price at the representative destination the per ton freight rate prevailing for coal shipped from the mine to that destination. The following insert illustrates the method:

<i>Producing District and Base Coal (¾" × 0" slack)</i>	<i>Delivered Price Phila.</i>	<i>Freight Rate from Mine to Phila. (dollars per net ton)</i>	<i>F.O.B. Mine Price</i>
District 1 — E	4.57	2.52	2.05
District 2 — Yough.-West. C	4.52	2.74	1.78
District 3 — Pitts. low-sulphur D	4.52	2.74	1.78

Having established the f.o.b. mine prices of all the base coals, the Coal Division was able to apply the differentials in cents per ton which had been previously determined for the different sizes and qualities. In this way a schedule of mine prices for all coals shipped from a particular district to a particular market area was obtained. In most instances, the price differentials arrived at during the establishment of uncoordinated mine prices were applicable. When adjustments were necessary, however, they were made by the Coal Division.

The reader may be interested in seeing a partial tabulation of the coordinated minimum prices that were established in Western Pennsylvania for a *single mine* if it shipped (which it probably did not) all the designated sizes to the specified market areas. The data in Table 33 are for the "Ocean Mine," one of 271 mines in District 2 for which all-rail minimum prices were established by the Coal Division. Few of these mines received identical minimum price schedules. This table does not apply to shipments from the "Ocean Mine" for movement to Lake Ontario ports, nor (1) to coal intended for bunker fuel at tidewater or at ports on Lake Erie or Lake Ontario, (2) to coal sold for use by railroads, or (3) to coal shipped by river, or shipped on an "ex-river" basis. All these shipments and uses were provided for in other tables. Moreover, when any coal extracted from the "Ocean Mine" was to be shipped by truck to its destination, it had to be sold at not less than the minimum prices published in a special table for truck-hauled coal.

TABLE 33
Announced Minimum Prices for All-Rail Coal Shipped from a Selected Mine, 1940
(dollars per net ton, f.o.b. mine)

To Market Area	Size Group as Numbered, and Assigned Quality Designation as Lettered												By-Product Use			
	Lump and Double-Screened Coals			Run of Mine			Screenings			Horizontal- and Vertical-Retort or Water-Gas Use			Other Uses ^a			
	1	2	3	4	5	6	7	8	9	11	12	13	14	15, 16	D	D
Tidewater, and																
Nos. 1, 2, and 100	2.33	2.33	2.28	2.28	2.03	2.03	1.88	1.88	1.78	2.20	2.05	1.95	1.73	1.73		
No. 3	2.33	2.33	2.28	2.28	2.16	2.16	1.91	1.91	1.81	2.20	2.05	1.95	1.73	1.73		
No. 4	2.50	2.40	2.35	2.35	2.10	2.10	1.95	1.95	1.85	2.30	2.15	2.05	1.80	1.80		
Nos. 5 and 6	2.50	2.40	2.35	2.35	2.10	2.10	1.95	1.95	1.85	2.30	2.15	2.05	1.95	1.95		
No. 7	2.65	2.55	2.35	2.30	2.20	2.20	2.05	1.95	1.85	2.30	2.15	2.05	1.95	1.95		
Nos. 8, 9, 11, 12, 13, ^b 14, and 16	2.60	2.50	2.30	2.25	2.20	2.20	1.95	1.95	1.85	2.30	2.15	2.05	1.95	1.95		
No. 10	2.34	2.24	2.19	2.19	1.94	1.94	1.79	1.79	1.69	2.30	2.15	2.05	1.95	1.95		
Nos. 15, 17, 18, 19, 20, and all others	2.45	2.35	2.00	1.95	1.85	1.85	1.65	1.65	1.55	2.30	2.15	2.05	1.95	1.95		

^a "Horizontal- and Vertical-Retort or Water-Gas and By-Product Use."

^b Mines in Freight-Origin Group 73 were instructed to make the following adjustments: Add 2 cents on coal shipped to Akron Water Works Switch and Ravenna. Subtract 11 cents for coal shipped to Akron, Barberton, East Akron, Fairlawn, Huron (Proper), Kent, Mogadore, and Rittman.

Source: *Federal Register*, August 24, 1940, pp. 3010-21. The mine was the Ocean Mine of the Pittsburgh Coal Company, located in Freight-Origin Group 73, in Allegheny County, Western Pennsylvania.

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h. *Realization and weighted average costs.* The process of checking, and where necessary of adjusting, the estimated sales realization against the weighted average costs was accomplished by (1) setting in adjoining columns (a) all shipments of coal from the district as recorded in the Distribution Survey for 1937 and (b) the proposed coordinated minimum prices, f.o.b. mine, as worked out above; (2) multiplying the recorded tonnages by the coordinated minimum prices, and (3) dividing the sum of the products thus obtained by the total tonnage shipped by the district. The resulting quotient was the "estimated realization" of the district, and this figure was compared with the "weighted average cost" of the minimum price area within which the district was located. It will be recalled that the "estimated realization" was to be no farther from the "weighted average cost" than the necessities of coordination required.

i. *Hearings, review, and revision of coordinated prices.* It must not be imagined that the coordinated prices as first written were satisfactory to everyone or that they were immediately put into effect. On the contrary, they were debated and discussed at the hearings held between May 1939 and January 1940.²⁵ The record of these hearings occupied a row of filing cabinets (26,000 pages of testimony and argument, 2,000 exhibits, 700 written protests, and 112 briefs). It was summarized in a work of some 2,800 pages, signed by Trial Examiners Thurlow G. Lewis, Charles O. Fowler, and Samuel H. Jaffee, and entitled *Report, Proposed Findings of Fact, Conclusions and Recommendations of Trial Examiners*. It was issued in April 1940.

Some persons objected to the contents of that report. Howard A. Gray, then the Director of the Coal Division, listened to the oral arguments of nearly 300 persons during the period May 27 to June 6, 1940. A shorter report was issued in August 1940 under the title: *Findings of Fact, Conclusions of Law, and Order of the Director of the Bituminous Coal Division Establishing Effective Minimum Prices and Marketing Rules and Regulations under the Bituminous Coal Act of 1937*. This work reproduced some of the material of the earlier report and described the price changes which had been made in the light of the protests received by the Director.

The matter then passed to the Secretary of the Interior, who heard protests of about 100 persons during the last three weeks of

²⁵ Additional oral arguments were heard by the Trial Examiners on February 14, 15, and 16, 1940.

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August 1940. The Secretary on September 24, 1940 issued his résumé of the foregoing proceedings under the title: *Order of the Secretary of the Interior with respect to Minimum Prices and Marketing Rules and Regulations under the Bituminous Coal Act of 1937*. It provided that the coordinated minimum prices, as approved by the Trial Examiners, the Director, and the Secretary, should become effective on October 1, 1940.

B. Coordination Process in Ohio

Because the Act applied to more than 12,000 producers who mined coal in 22 districts and 30-odd states, and necessitated the establishment of some 300,000 minimum prices, it would be unwise to attempt to discuss the application of the technique of coordination to all districts and market areas. For our purpose it is sufficient to show how the prices of the coals of a single district were coordinated with those of competing coals in the consuming markets served by the district, and then to consider other aspects of the problem not found in the district that was selected for illustrative purposes.

1. OHIO SELECTED TO ILLUSTRATE COORDINATING PROCESS

District 4, which embraced all coal-producing counties in Ohio, was chosen as the district to be used for the purpose of illustrating the coordinating process. The choice of Ohio was influenced by the following considerations:

—*Ohio is situated in the heart of the bituminous coal industry.* Coal from the East and South moves into Ohio and the market areas served by its mines. Among its competitors are the high-volatile producers of Districts 2, 3, 6, and 8, and, less directly, the low-volatile producers of Districts 1 and 7.

—*Ohio is neither the largest nor the smallest district.* It ranked sixth in production in 1937 and reported an output of 25 million tons of coal.

—*Ohio had neither the highest nor the lowest production and distribution costs.* In the 22 districts, total costs in 1936-37 ranged from \$1.49 to \$3.65 and averaged \$2.09 for the country as a whole. Ohio's costs averaged \$1.94.

—*The distribution pattern of Ohio's coal followed that of the nation's in important respects.* Coal shipped by rail ranked first

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in volume, that sold as "railroad fuel" ranked second, and "truck shipments and local sales" ranked third.²⁶

—*Ohio coal in any one subdistrict tends to be fairly uniform in quality.* This characteristic of Ohio's coal greatly simplifies the presentation of the coordinating process.

2. OHIO PRODUCING FIELDS, FREIGHT-ORIGIN DISTRICTS, MARKET AREAS, AND COAL SHIPMENTS

The task of presenting the procedure followed in coordinating Ohio's coal prices with those of competing districts is much simplified if the reader possesses a knowledge of Ohio's producing and freight-origin districts, the market areas served by Ohio mines, and the distribution pattern of its coals. A consideration of these aspects will therefore precede the discussion of the coordinating process.

a. *Producing fields.* The coal seams of Ohio are situated in the eastern and southeastern parts of the state, as a direct continuation of the Pennsylvania high-volatile coal fields. In 1940, when prices were coordinated, coal was mined in 26 counties, four of which—Belmont, Jefferson, Harrison, and Athens—produced about 70 per cent of the total output.²⁷ As Map 3 shows, the mines were grouped into eight subdistricts, all but one of which touched the Ohio River at some point. Table 34 gives a description of these subdistricts, which were defined by well-recognized lines. Important boundaries were the Ohio state lines, the Ohio River, and the western border of Pennsylvania. Other boundaries were drawn to correspond to county and township lines and in one case to a railroad line.

Measured in terms of output, the eastern subdistrict was by far the largest and the middle subdistrict was the second largest.

Various considerations were taken into account in the creation of these subdistricts. Of especial significance were broad quality differences in the coals produced as well as differences in the freight rates to important common markets. Another consideration was the identification by the industry or coal trade of certain mines with a common geographical designation growing out of the fact that these mines were in the same seam, were situated in a particular valley, or located on the same railroad line.

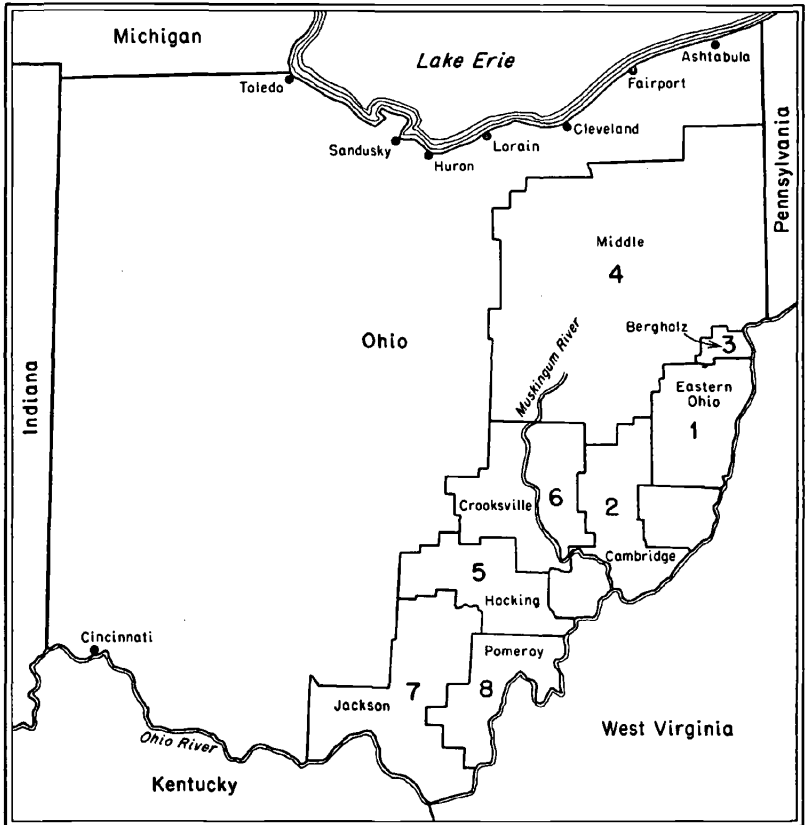
²⁶ From a comparison of coal distribution tables for Districts 1-5 and 7-15 for the year 1937. The tables were issued November 11, 1939, by the Research and Statistics Section of the Bituminous Coal Division. A discussion of coal production, distribution, and consumption in Ohio may be found in a report of the Commission that was published in the *Federal Register*, November 18, 1937, pp. 2490-95.

²⁷ *Minerals Yearbook, 1941*, U.S. Bureau of Mines, p. 890.

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b. *Freight-origin districts.* When the coordination of the prices for all-rail shipments of Ohio coals was under consideration, it became necessary to introduce further refinements into the subdivisional scheme, so that the classification of mines would conform

MAP 3
Producing Subdistricts of Ohio, 1940



Source: Table 34.

more closely to freight rate necessities. Accordingly, the mines in the eight subdistricts were regrouped into nine freight-origin districts.

This was done by listing the mines included in each district instead of by defining the geographical area in which the mines were located. The description of the nine freight-origin districts in terms of the subdistricts in which the mines were located is given in Table 35 and Table 36.

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In order to explain more fully the reasoning which led to the regrouping of Ohio coal mines, two instances of reclassification are reviewed. One of these mines, Bailey's Mills, No. 96 was located in Subdistrict 1. Its price characteristics, however, were

TABLE 34
Producing Subdistricts of Ohio, 1940

<i>Producing Subdistrict</i>	<i>County or Counties Included</i>
1 Eastern Ohio	Belmont, Harrison (except Apex mine and Monroe, Franklin, Washington, and Freeport Townships), Jefferson (except Brush Creek, Saline, Ross, Knox, and Springfield Townships)
2 Cambridge	Guernsey (except Wheeling, Monroe, Washington, Knox, Liberty, Jefferson, Adams, and Westland Townships), Noble and Washington
3 Bergholz	Northern part of Jefferson County (Brush Creek, Saline, Ross, Knox, and Springfield Townships), and Apex mine in Harrison
4 Middle	Carroll, Columbiana, Coshocton, Holmes, Mahoning, Medina, Stark, Summit, Tuscarawas, Portage, Wayne, Trumbull; Monroe, Franklin, Washington, and Freeport Townships in Harrison, and Wheeling, Monroe, Washington, Liberty, and Jefferson Townships in Guernsey
5 Hocking	Athens, Hocking, Perry (that part south of McCuneville and Rendville), and Vinton (that part of Brown Township on and north of the line of Baltimore and Ohio Railroad)
6 Crooksville	Muskingum, Morgan, Perry (that part north of McCuneville and Rendville), and Guernsey (Knox, Adams, and Westland Townships)
7 Jackson	Jackson, Lawrence, Scioto, Vinton (except that part of Brown Township on and north of the Baltimore and Ohio Railroad), and Gallia (Huntington Township only)
8 Pomeroy	Meigs and Gallia (except Huntington Township)

Source: *Federal Register*, August 24, 1940, p. 3061.

more nearly like the mines of the Cambridge Subdistrict 2 than like those of Subdistrict 1. The following insert lists the prices of coals to common market areas from mine No. 96, the remaining mines of Subdistrict 1, and those of Subdistrict 2. It also shows the freight rate to Market Area 11. To all market areas except 11

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TABLE 35
Mines in Freight-Origin Districts of Ohio, 1940

<i>Freight-Origin District</i>	<i>Contents</i>
Ohio No. 8	All mines of Subdistrict 1 except Mine 96 at Bailey's Mills.
Cambridge	All mines of Subdistrict 2 plus Mine 96 at Bailey's Mills.
Ohio-Middle	Mine 7 at Apex in Subdistrict 3.
Middle	All mines of Subdistrict 3 except Mine 7 at Apex. All mines of Subdistrict 4 except Mines 3, 53, 77, 159, and 166.
Leetonia	Mines 3, 53, 77, 159, and 166 in Subdistrict 4.
Hocking	All mines of Subdistrict 5 except Mines 39 and 136 at Mineral.
Jackson	All mines of Subdistrict 7 plus Mines 39 and 136 at Mineral.
Crooksville	All mines of Subdistrict 6.
Pomeroy	All mines of Subdistrict 8.

Source: *Federal Register*, August 24, 1940, pp. 3062-65.

TABLE 36
Distribution of Mines in Freight-Origin Districts
and Producing Subdistricts of Ohio, 1940

<i>Freight-Origin District</i>	<i>Number of Mines</i>	<i>Producing Subdistrict</i>
Ohio No. 8	46	Eastern Ohio (1)
Cambridge	1	
	5	Cambridge (2)
Ohio-Middle	1	
Middle	6	Bergholz (3)
	16	
Leetonia	5	Middle (4)
Hocking	23	
Jackson	2	Hocking (5)
	9	
Crooksville	19	Jackson (7)
Pomeroy	10	
	19	Crooksville (6)
	10	
	10	Pomeroy (8)
	10	
	143	

Source: *Federal Register*, August 24, 1940, pp. 3062-65.

there is no difference between the prices of Ohio No. 8 (Subdistrict 1) and those of Cambridge, a fact which is also true of the freight rates of these areas. There is a difference, however, with respect to Market Area 11. In that area, mine No. 96 carries the same price and the same freight rate as two mines in the Cambridge subdis-

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*Minimum Prices for O Grade Coal, Size Group 2,
Shipped All-Rail from Ohio to Various Market Areas
(dollars per net ton, f.o.b. mine)*

Origin							Freight to
	4 and 5	7-9 and 13	10	12	14-21	11	Youngstown (Market 11)
Ohio No. 8	2.15	2.30	1.99	2.20	2.45	2.20	1.44
Mine No. 96	2.15	2.30	1.99	2.20	2.45	2.03	1.61
Cambridge ^a	2.15	2.30	1.99	2.20	2.45	2.03	1.61
^b	2.15	2.30	1.99	2.20	2.45	2.10	1.54

^a Mines 87 and 121.

^b Mines 11 and 169.

trict, and so the Coal Division assigned mine No. 96 to the freight origin district in which these Cambridge mines were classified. Parenthetically, it may be pointed out that two of the mines in Cambridge shipping to Market Area 11 had a freight rate (\$1.54) unlike that of any other mine in Ohio. These two mines might have been given a separate freight origin district, but they were retained in the Cambridge District and assigned a special price for this market area.

Five mines in Subdistrict 4 (producing field) were placed in a separate freight-origin district, called Leetonia, because they carried a \$.94 freight rate to this area while the typical mines in the Middle Freight-Origin District had a transportation charge of \$1.44. The following insert shows the prices which were assigned to the size 2 coal in quality grade Q for the great majority of mines in the Middle District and the five mines in Leetonia. It also gives the freight rates from both freight-origin districts to Market Area

*Minimum Prices for Q Grade Coal, Size Group 2,
Shipped All-Rail from Ohio to Various Market Areas
(dollars per net ton, f.o.b. mine)*

Origin							Freight to
	4 and 5	7-9, and 13	10	12	14, 17-19	15 16, 20 and 21	11 Youngstown (Market 11)
Middle ^a	2.05	2.45	1.89	2.20	2.35	2.45	2.10
Leetonia	2.05	2.45	1.89	2.20	2.35	2.45	2.60
							.94

^a Except a few mines whose freight to Youngstown was 1.61. Their price to Market Area 11 was 1.93.

11. It will be noted that the only variation in prices is in Market Area 11 where a 50-cent differential seems to be accounted for by a similar spread in freight rates.

The above illustrations are not based on statements made by the

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Coal Division, but are the result of a study of the price schedules and the tables on freight rates. While other factors may have been taken into account, it is undoubtedly true that the primary consideration was the freight-rate structure.

c. *Market areas.* Since the Act required prices to be coordinated in common consuming market areas, the reader should have a general knowledge of the market areas in which Ohio producers compete with each other or with the operators of other districts. "Common consuming market areas," shortened by usage to "market areas," were determined by representatives of district boards working in collaboration with the Commission's experts. In a great number of cases the areas agreed upon were patterned after those developed under the NRA Coal Code.²⁸

Each market area presented a unique situation with respect to coordination and thus required individual investigation and consideration. Several factors, however, were common to many market areas even though the relative weights assigned to them in determining the market areas differed from one area to another. These included:

- The freight rates from the producing field to the area.
- The tonnages entering a market area: their magnitudes and sources.
- The competitive relationships between rail coals, lake coals, river coals, and truck coals.
- The competition of coal with other fuel and energy.
- Miscellaneous factors, such as state boundary lines.²⁹

The first two factors overshadowed the others in the determination of market areas.

Ohio producers served 19 of the 192 market areas into which bituminous coal was shipped. These 19 areas are grouped for convenience into seven categories:

Ohio—Market Areas 11 (part), 12, 13, 14, 15, 16, 17, 18, and 19.

Southern peninsula of Michigan—Market Areas 20 and 21.

Parts of Canada and New York State—Market Area 4.

Parts of Pennsylvania—Market Areas 5, 7, 10, and 11 (part).

²⁸ The Commission adopted most of the market areas proposed by the district boards' representatives. For a detailed description of the Commission's original list of areas, see the *Federal Register* of May 4, 1939, pp. 1831-54. The revised list was published in the issue of August 30, 1940, pp. 3445-67.

²⁹ *Report . . . of Trial Examiners*, pp. 53-68.

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Parts of West Virginia—Market Areas 8 and 9.

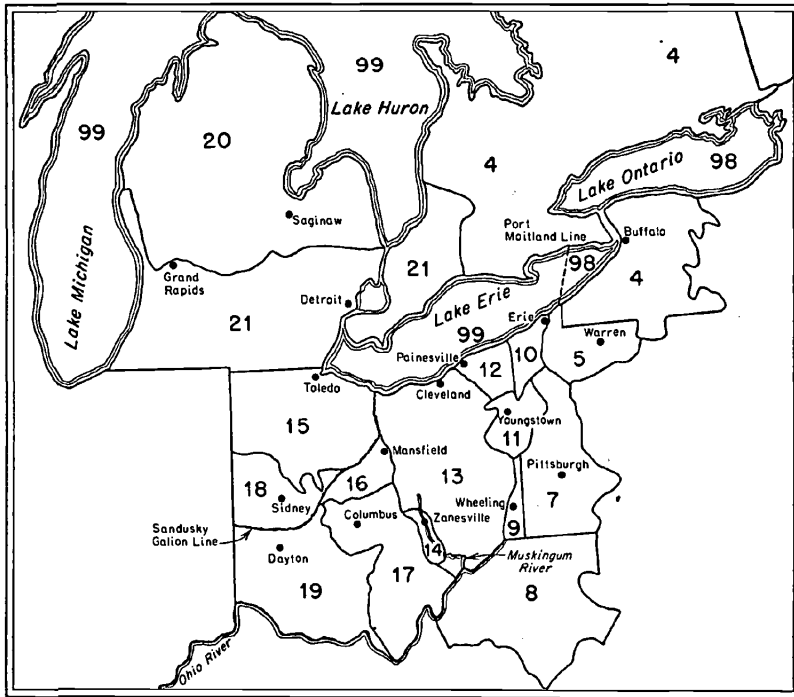
Lake cargo-receiving ports on Lake Ontario and the St. Lawrence River—Market Area 98.

Lake cargo-receiving ports on Lake Erie and west—Market Area 99.

Map 4, which has been traced from one prepared by the Coal Division, identifies the 19 market areas into which coal produced in Ohio mines was customarily shipped. Two of these areas were re-

MAP 4

Main Market Areas for Ohio Coals, 1940



Source: Bituminous Coal Division.

stricted to lake-cargo coals. Area 98 comprised the receiving ports on Lake Ontario and the St. Lawrence River, that is, all lake points east of the Port Maitland Line—an imaginary line drawn west of Port Maitland, Ontario, on the north shore of Lake Erie to that point on the south shore of Lake Erie where the New York and Pennsylvania state lines meet. Area 99 served all lake points west of this line. The remaining 17 areas into which all-rail coal

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moved are classified into broad categories in Table 37 which also gives the proportion of Ohio's all-rail tonnage supplied to each group of areas in 1937.

An examination of the factors considered in the determination of each of the market areas into which Ohio all-rail coal moved

TABLE 37
Groups of Market Areas and Percentage of Ohio All-Rail Coal
Supplied to Each, 1937

<i>Group</i>	<i>Market Area</i>	<i>Percentage Supplied</i>
Eastern Ohio	11, 12, 13, and 14	62.1
Northwestern Ohio and Michigan ^a	15, 18, 20, and 21	23.4
Central and southwestern Ohio	16, 17, and 19	12.8
Areas east and northeast of Ohio ^b	4, 5, 7, 8, 9, and 10	1.7
Total		100.0

^a Includes miscellaneous all-rail shipments to "all other market areas."

^b No Ohio all-rail coal was shipped to Market Area 8 in 1937.

Source: Computed from *Report . . . of Trial Examiners*, pp. 379-601, *passim*.

discloses that freight rates were of primary importance in most areas. The quantities and sources of the coals entering each market area also were pertinent factors, since they indicated the important competing coals. Competition between rail coal, truck coal, river coal, and lake coal exerted an influence in the determination of certain market areas. In some instances state lines played a part in the selection of the boundary of a given market area. Competition between coal and other fuel or sources of energy, however, had little if any influence in the determination of Ohio market areas—a fact true of most of the other market areas.³⁰

d. *Distribution pattern of Ohio coal.* Table 38 shows the percentage of coal shipped by each of the various types of transportation and the percentage sold as railroad fuel.

In coordinating coal prices, the price-fixing agency found it advisable to develop a series of price schedules—one for each type of shipment. In Ohio, it established one schedule for all-rail coal, a second for railroad fuel, a third for lake shipments, a fourth for river shipments, and a fifth for truck shipments. Each of these schedules contained not one price for a given size and grade as in

³⁰ Competition with other sources of energy appears to have been given weighty consideration in but two areas: No. 63 in Iowa and No. 239 in the state of Washington.

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the uncoordinated price schedules, but many prices depending upon the origins and destinations of the coals.

The following presentation will take up one type of schedule at a time and, since all-rail coal constitutes so large a proportion

TABLE 38
Shipments of Ohio Coal Produced by Code Members
and Listed in Price Schedules, 1937

<i>Type of Movement, Use, or Sale</i>	<i>Production</i>	
	<i>(net tons)</i>	<i>(per cent)</i>
All-rail shipments (excluding railroad fuel)	8,805,816	39.5
Railroad fuel	8,455,584	38.0
Shipments to Great Lakes piers (excluding railroad fuel)	1,761,241	7.9
River shipments	552,364	2.5
Truck shipments and local sales ^a	2,427,945	10.9
Miscellaneous items ^b	258,957	1.2
Total	22,261,907	100.0

^a From Forms D-1, D-2, and D-3.

^b Includes coal delivered by conveyor, chute, or aerial tramway; distributor-handled shipments (destination and use unknown); tonnage of "unpriced coal"; coal used by mine employees; and coal used as mine fuel.

Source: "Total Distribution of 'Priced' and 'Unpriced' Coal in calendar year 1937 (District 4)," Exhibit P-795, Bituminous Coal Division, 1939. The above production constituted 88.4 per cent of the total output of all Ohio coal mines. Of the 2,915,960 tons not accounted for, over one-third represented the production of mines of code members which were closed down before prices were established. The unaccounted-for tonnage also included the output of non-Code members.

of the total coal shipped, the analysis of the coordinating process will begin with this type of shipment.

3. COORDINATION OF OHIO ALL-RAIL COAL

The coordinating process began with the uncoordinated price schedule which supplied the mine prices for each grade and size of coal produced in the district.⁸¹ This schedule is presented in Table 39.

a. *Simplification of uncoordinated price structure.* For our purposes the price schedule is unnecessarily complicated because it contains prices for certain grades and sizes of coal which are not produced in Ohio. For example, prices are shown for all eight sizes of

⁸¹ Since uncoordinated prices were established independently of common consuming markets, price breakdowns by types of transportation were not necessary.

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grade K coal, yet Ohio mines produced only two sizes (Nos. 1 and 2) of the K grade. Again, the schedule designated prices for grades L, N, and P, but no coals of these grades were mined, the grades having been inserted merely to preserve a 5-cent interval between

TABLE 39
Uncoordinated Minimum Prices for Ohio All-Rail Coal,
by Size and Grade, 1939
(dollars per net ton, f.o.b. mine)

Grade of Coal	Size Group							
	1	2	3	4	5	6	7	8
	6" Lump	4" Lump	2" Lump	1½" Lump	2"×2" Nut	Run of Mine	2"×0" Nut Slack	¾"×0" Slack
K	2.95	2.85	2.65	2.55	2.30	2.40	1.95	1.89
L	2.90	2.80	2.60	2.50	2.25	2.35	1.90	1.84
M	2.85	2.75	2.55	2.45	2.20	2.30	1.85	1.79
N	2.80	2.70	2.50	2.40	2.15	2.25	1.80	1.74
O	2.75	2.65	2.45	2.35	2.10	2.20	1.75	1.69
P	2.70	2.60	2.40	2.30	2.05	2.15	1.70	1.64
Q	2.65	2.55	2.35	2.25	2.00	2.10	1.65	1.59
R	2.60	2.50	2.30	2.20	1.95	2.05	1.60	1.54

Note: These prices are from the uncoordinated price schedule (*Federal Register*, January 11, 1939, p. 138). In order to make it possible to compare these prices with the later coordinated prices we have translated the old size group numbers into the new. However, because the borderlines between the size groups were not identical, we have refrained from describing fully the content of each size group. Instead we have used for each column a particular size that was common to both systems. The size numbers of the coordinated schedules (*ibid.*, August 24, 1940, p. 3065) really run to 12 but numbers 9, 10, 11, and 12 refer to size groups for which no uncoordinated prices had been prepared. For a comparison of size groups and their precise contents see Appendix B.

grades of coal. To simplify the presentation, Figure 3 has been prepared which gives Ohio's uncoordinated price schedule with the fictitious prices removed. It will be helpful to think of each of the 26 price units as represented by a cube.

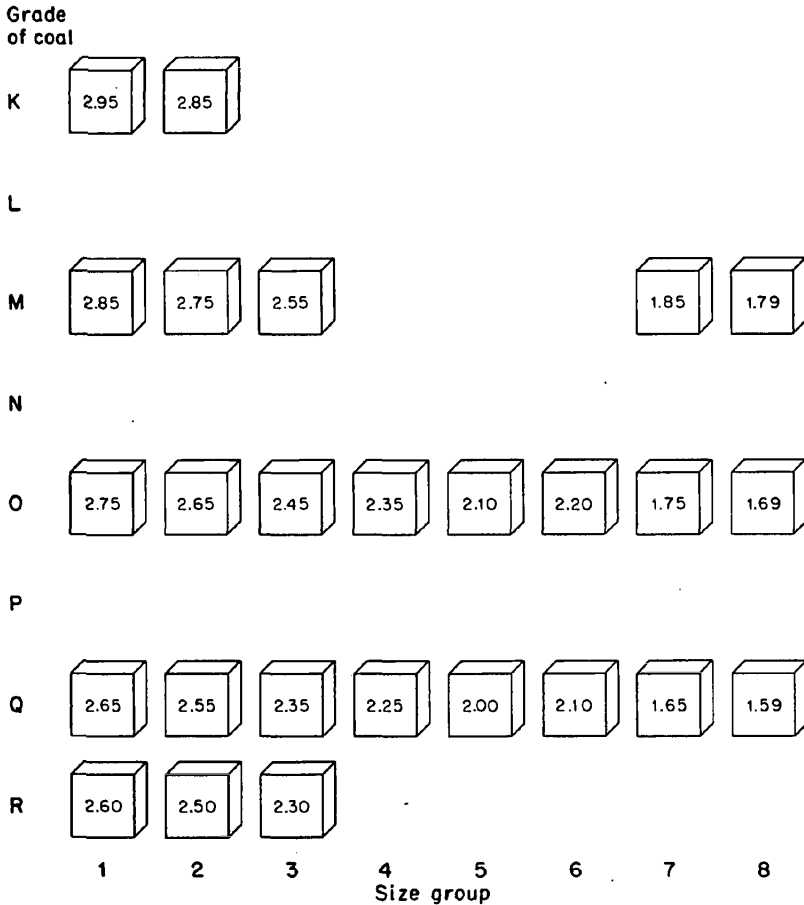
b. *Division of each size group of a given grade of coal according to freight-origin districts.* Any scheme for setting coal prices must consider both the locality in which the coal is produced (freight-origin district) and the destination to which it is shipped. At this stage we shall discuss the former.

Of the 26 price units shown as cubes in Figure 3 the five assigned to size group 2 will now be lifted out for further treatment: grades K, M, O, Q, and R.

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Grade K of size group 2 is found not in one freight-origin district but in three. Because the coordinated mine price which may be established for shipments of this grade of coal from one freight-

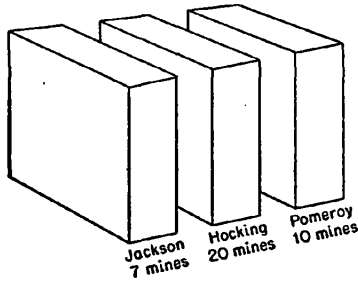
FIGURE 3
Significant Uncoordinated Minimum Prices for Ohio Coal, 1940
(dollars per net ton, f.o.b. mine)



Source: Table 39.

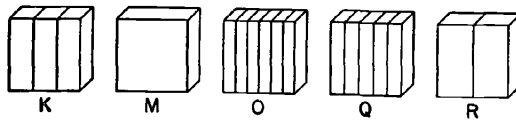
origin district to a given market area may not be the same as that from another freight-origin district, this block representing grade K coal must be sliced to represent all parts of Ohio that produce it. These are presented on page 202.

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K Coal
Size Group 2
Price \$ 2.85 (uncoordinated)

If the other grades of coal in this size group are visualized in the same way, the series will take the following form:



The number of mines producing these grades in each of the freight-origin districts is shown in Table 40.

TABLE 40
Number of Mines in Each Freight-Origin District of Ohio,
by Grade of Size 2 All-Rail Coal, 1940

Freight-Origin District	Grade					All Grades
	K	M	O	Q	R	
Ohio No. 8			38	8		46
Cambridge		1	3		2 ^a	6
Ohio-Middle				1		1
Middle			4	18		22
Leetonia				5		5
Hocking	20		2		1 ^a	23
Jackson	7		4			11
Crooksville			18	1		19
Pomeroy	10					10
Total	37	1	69	33	3	143

^a These mines produced coal in this size that was usually graded and priced as grade R. However, when sold for kiln-burning purposes or for use in state, federal, or municipal institutions, it was graded and priced as O.

Source: *Federal Register*, August 24, 1940, p. 3065.

Each of the pictured segments was separately considered in the coordination of prices by market areas.

The above discussion dealt only with size group 2. The actual

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coordination process required a similar breakdown for the various grades of coal in all the other size groups shipped as all-rail coal.³²

c. *Breakdown of each size group of a given grade of coal in a given freight-origin district by market areas.* In the preceding section, the price-fixing process was considered from the standpoint of the area in which the coal was produced, that is, the freight-origin district. Consideration must next be given to the area to which the coal is to be shipped, namely, the consuming market. The 17 market areas into which all-rail Ohio coal moved were placed in the following groups for the purpose of setting the minimum prices that were to become effective in October 1940: 4 and 5; 7, 8, 9, and 13; 10; 11; 12; 14; 15; 16; 17; 18; 19; 20, 21, and all others.

The general location of the individual areas has been outlined in Map 4.³³ The true importance of a market area is best measured by the tonnage of coal it receives. Detailed figures showing the actual tonnages of size group 2 coal of K grade which went to each area were not available. It is known, however, that Market Area 13, in eastern Ohio, received in 1937 approximately 50 per

³² For purposes of comparison, size group 8 of Ohio coals is classified by freight-origin districts in the accompanying table:

Number of Mines in Each Freight-Origin District of Ohio Producing Various Grades of Size 8 All-Rail Coals

Freight-Origin District	Grade			All Grades
	M	O	Q	
Ohio No. 8		38	8	46
Cambridge		6		6
Ohio-Middle			1	1
Middle		5	17	22
Leetonia			5	5
Hocking			23	23
Jackson	1	6	4	11
Crooksville			19	19
Pomeroy			10	10
Total	1	55	87	143

Federal Register, August 24, 1940, p. 3065.

Important differences will be noted between the breakdowns of all-rail coals in size group 2 and size group 8. Grade O coal in the case of size group 2 was divided among six freight-origin districts while that of size group 8 among only four. Grade Q coal of size group 2 was broken down into five segments while the comparable coal of size group 8 was divided into eight segments. Grade M coal in both size groups was found in only one freight-origin district.

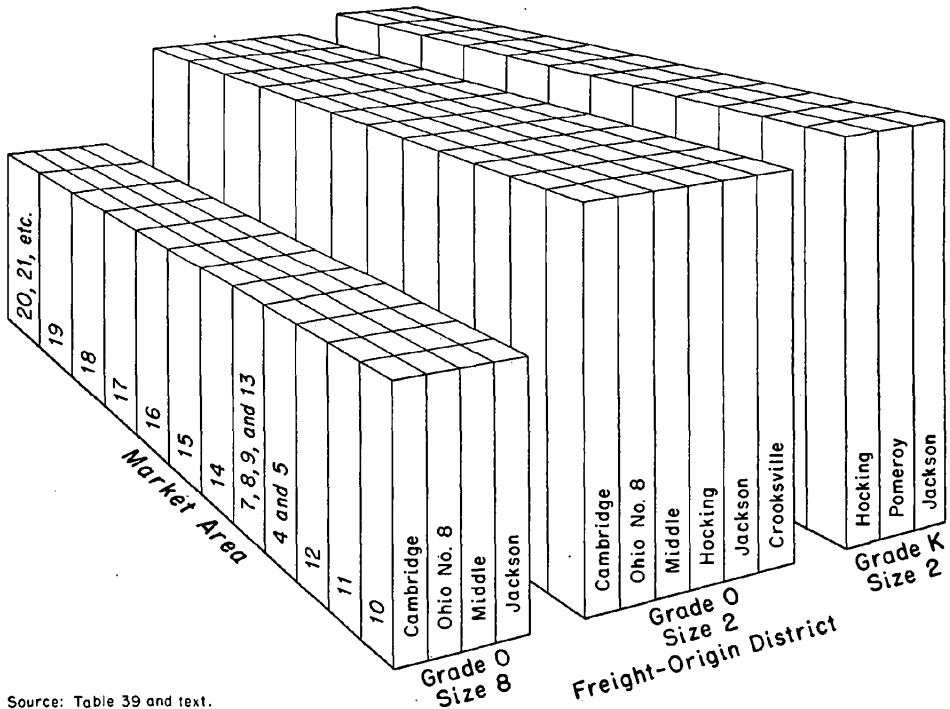
³³ A detailed description of these market areas may be found in the *Federal Register* of May 4, 1939, pp. 1833-36.

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cent of the 8.8 million tons of rail-shipped Ohio coal of all sizes and grades, that Market Areas 17 and 21 each received about 10 per cent of the total, and that the receipts of no other market areas amounted to more than 7 per cent.

Let us now return to the cube that represents grade K coal of size group 2 which, it will be recalled, was sliced into three parts representing the Hocking, Jackson, and Pomeroy Freight-Origin Districts. Each of these subblocks is now divided further into 12 columns which correspond to the 12 market areas or groups of market areas designated by the price-fixing agency for the purpose of coordination. The result of this action is shown graphically in Figure 4 for size group 2 of grade K coal. For comparative purposes the breakdowns of both size group 2 and size group 8 of grade O coal have been added.

FIGURE 4
Uncoordinated Minimum Prices for Three Ohio Coals, by Freight-Origin District and Market Area, 1940
(dollars per net ton, f.o.b. mine)



Source: Table 39 and text.

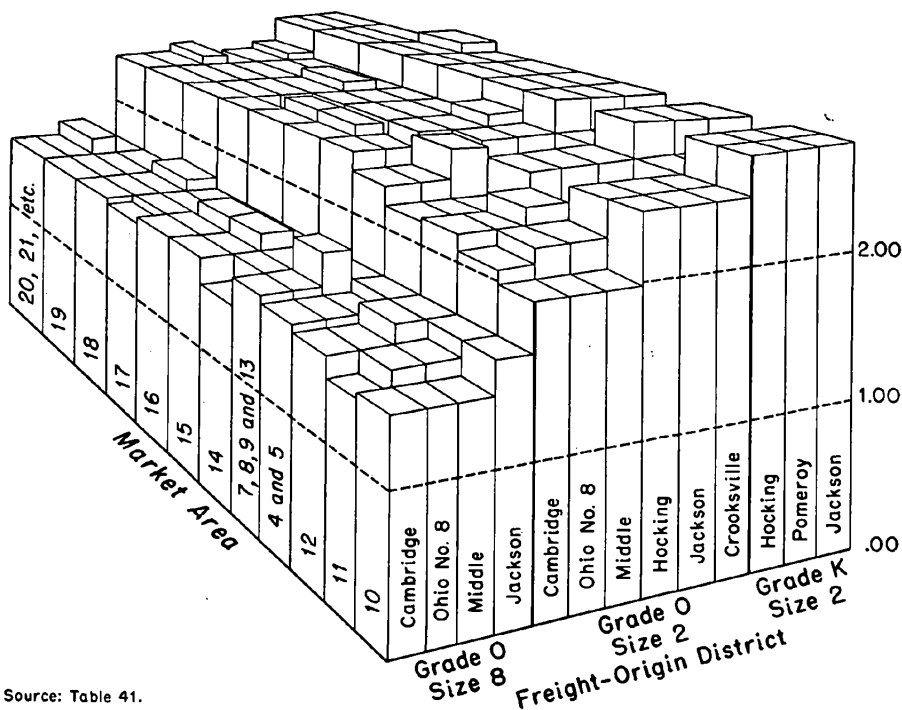
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d. *Coordinated prices of Ohio coals.* At this point it seems desirable to interrupt the step-by-step explanation of the coordinating process to present the actual coordinated minimum prices for Ohio's all-rail coal. This treatment will simplify the presentation of the rest of the coordinating procedure.

In Figure 5 we have assigned a dollar scale to the vertical dimension of each cube shown in Figure 4 and adjusted the height

FIGURE 5

Coordinated Minimum Prices for Three Ohio Coals Moving by Rail,
by Freight-Origin District and Market Area, 1940
(dollars per net ton, f.o.b. mine)



Source: Table 41.

of each of the 12 columns, which correspond to the 12 groups of market areas receiving all-rail coals, to the price level for the market area as specified in the schedule of coordinated minimum prices. Reference to Figure 5 will show that the coordinated prices for size group 2 of grade K coals assigned to the freight-origin districts producing this grade of coal, namely, Hocking, Pomeroy, and

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Jackson, were generally uniform. In the case of Market Area 18, however, the coal shipped from Jackson was priced ten cents a ton above that sent to the same market area by rail from the other two freight-origin districts. It will also be observed that this grade of coal carried a lower rate in all three districts when shipped to Market Areas 7, 8, 9, 12, and 13. The rate to these market areas was \$2.45 instead of \$2.75, the coordinated minimum price for all other market areas except for coal shipped from Jackson to Market Area 18.

To enable the reader to make a ready comparison between two grades of the same size and between two sizes of the same grade, comparable data are graphically presented for grade O coal, size group 2 and grade O coal, size group 8.

This analysis has been confined to but three of the 26 original cubes, each representing the uncoordinated minimum price of one of the various grades and sizes of coal produced by Ohio mines. It is not deemed necessary to present additional blocks and columns, since the reader can easily imagine them stacked side by side with their uneven tops forming miniature mountains of prices.

The exact price of each column could not be conveniently shown on the diagram because of spatial limitations and three-dimensional "blind spots." Table 41 supplies the price data used in preparing the graphic presentation. It may be helpful to the reader to turn to Table 42 which gives both the uncoordinated minimum prices and the coordinated minimum prices for the various grades and sizes of Ohio coals. It will be observed that as the result of the coordinating process, a single minimum price (uncoordinated) for each grade and size was replaced by a number of minimum prices (coordinated), the number depending upon the number of breakdowns required to meet production and marketing needs.

e. Procedure used in coordinating selected coals. Having provided an illustration of the coordinated minimum prices for Ohio's all-rail coal, we now return to our step-by-step explanation of the coordination process.

The task before us is to relate the prices of selected Ohio coals to those of other coals competing in a representative destination and to explain how and why these relationships were established. Since the primary purpose of this chapter is to give an understanding of the procedure used in coordinating prices, it is not necessary to examine the application of the coordinating process to all grades

TABLE 41
Coordinated Minimum Prices for Three Ohio All-Rail Coals
(dollars per net ton, f.o.b. mine)

Coal and Freight-Origin District	Market Area											20, 21, & All Others	
	10	11	12	4 & 5	9, & 13	7, 8,	14	15	16	17	18		19
<i>Grade O, Size Group 8</i>													
Cambridge	1.44	1.38 ^a 1.45 ^b	1.55	1.60	1.65	1.65	1.45	1.65	1.65	1.60	1.65	1.65	1.65
Ohio No. 8	1.44	1.55	1.55	1.60	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65
Middle	1.44	1.55	1.65	1.60	1.90 ^d	1.65	1.65	1.75	1.75	1.65	1.65	1.65	1.75
Jackson	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.75	1.65	1.65
<i>Grade O, Size Group 2</i>													
Cambridge	1.99	2.03 ^a 2.10 ^c	2.20	2.15	2.30	2.45	2.45	2.45	2.45	2.45	2.45	2.45	2.45
Ohio No. 8	1.99	2.20	2.20	2.15	2.30	2.45	2.45	2.45	2.45	2.45	2.45	2.45	2.45
Middle	1.99	2.20	2.30	2.15	2.55 ^d	2.45	2.45	2.55	2.55	2.45	2.45	2.45	2.55
Hocking	2.45	2.45	2.15	2.45	2.15	2.45	2.45	2.45	2.45	2.45	2.45	2.45	2.45
Jackson	2.45	2.45	2.15	2.45	2.15	2.45	2.45	2.45	2.45	2.45	2.55	2.45	2.45
Crooksville	2.45	2.45	2.15	2.45	2.15	2.45	2.45	2.55	2.45	2.45	2.45	2.45	2.55
<i>Grade K, Size Group 2</i>													
Hocking	2.75	2.75	2.45	2.75	2.45	2.75	2.75	2.75	2.75	2.75	2.75	2.75	2.75
Pomeroy	2.75	2.75	2.45	2.75	2.45	2.75	2.75	2.75	2.75	2.75	2.75	2.75	2.75
Jackson	2.75	2.75	2.45	2.75	2.45	2.75	2.75	2.75	2.75	2.75	2.85	2.75	2.75

^a Mines No. 96, 87, and 121.

^b Mines No. 69, 11, and 169.

^c Mines No. 11 and 169.

^d May be reduced by \$.05 a ton when shipped to 78 specified destinations in Market Area 13, and by \$.15 cents to 58 other specified destinations in the same market area.

Source: Based on data published in the *Federal Register*, August 24, 1940, pp. 3065ff.

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and sizes of Ohio coal from all freight-origin districts to all market areas.

1) *Basis of choice of market areas, producing subdistricts, base coals, and related factors.* Because it was not deemed advisable to explain the coordination of all grades and sizes of Ohio coals with those of competing districts in all common markets, some discussion of the basis of our choice of coals and areas is in order.

a) *Market areas included.* Some of the market areas to which Ohio all-rail coals were shipped received very little of Ohio's output and hence their price coordination problems were not greatly influenced by the situation in Ohio—nor was the Ohio realization greatly affected by prices established in those areas. Other market areas presented a price picture that was essentially derivative, that is, their delivered prices were obtained by projecting into them certain f.o.b. mine prices that had been evolved in other market areas. For these reasons and because limitations of space preclude an exhaustive analysis, this discussion of the coordination of minimum prices in Ohio is limited to two market areas, 13 and 14, both located in eastern Ohio. (See Map 4.)

In terms of Ohio's production of all-rail coal, Market Area 13 consumed about 50 per cent, and Market Area 14, about 5 per cent. Thus, Market Area 13 was the most important consumer of all-rail coal extracted from the mines of Ohio.

All-rail coal that was produced in Ohio provided about 39 per cent of the all-rail coal consumed in Market 13 and about 95 per cent of that taken by Market Area 14.

b) *Producing districts included.* In addition to Ohio, all but four of the competing producing districts that shipped coal by rail in 1937 into the two selected market areas are included in our discussion. Because the prices proposed for the coals of the following districts were not clearly described in the *Report . . . of Trial Examiners*, they have been omitted:

<i>Producing District</i>	<i>Market Area Supplied</i>
5 Michigan	20 and 21
9 West Kentucky	21
10 Illinois	15, 20, and 21
11 Indiana	15, 20, and 21

Their omission is not serious, inasmuch as the number of districts remaining is adequate to illustrate the coordinating process.

c) *Ohio freight-origin districts included.* This analysis includes

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all freight-origin districts in Ohio which shipped all-rail coal in 1937 to the two market areas under consideration.

d) *Size group selected.* In their report, the Trial Examiners used the size group containing $\frac{3}{4}$ " \times 0" slack as the key size for coordinating the prices of coals in certain districts and the size group containing $1\frac{1}{4}$ " \times 0" slack for other districts. To simplify our presentation, $\frac{3}{4}$ " \times 0" slack will be used exclusively, and the prices for the larger size group will be translated into prices for the smaller coal.

e) *Grade of coal selected.* Between districts there was no choice of grades. For example, if the C coal of one district has been equated with the J coal of another, nothing would be gained by computing the price difference between the C coal of the first and the C coal of the second. But within Ohio it seemed desirable to adhere to grade O and to translate the prices of M coals and Q coals into terms of grade O. Thus, $\frac{3}{4}$ " \times 0" slack shipped to Market Area 13 was priced \$1.65 at the mine if it originated in Cambridge in which all coals of this size were of O grade. But $\frac{3}{4}$ " \times 0" slack shipped to the same market area from Hocking in which all coals of this size were of Q grade was priced at \$1.55. This was a price difference obviously due wholly to a quality difference of two "letters" at 5 cents a letter. If Hocking *could have* produced O coals they would have been priced \$1.65 for this size to this market area. Accordingly, grade O was used exclusively in the discussion of Ohio's coals. In all cases those coals whose O grade was merely assumed, such as Hocking's, have been marked by an asterisk.

2) *Method of presentation.* The explanation of the relationships established between Ohio coals and the coals of competing producing districts is given by market areas. For each of the two market areas is presented (1) a chart showing the price of coal at the mine, the freight rate to a "representative destination" in the market area, the delivered price at the "representative destination" in the market area, coal shipments to the market area by each freight-origin district and (2) an explanation of how the mine price was determined.

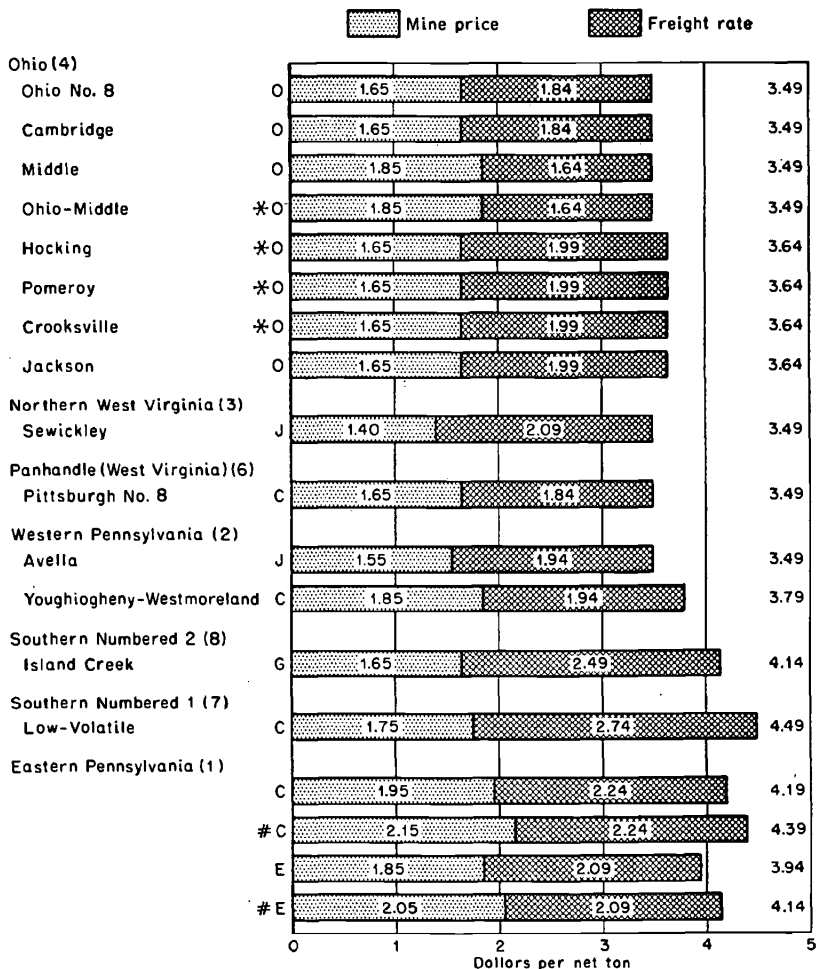
3) *Coordination of prices in Market Area 13.* This market area was one of the "home markets" of Ohio. It included the freight-origin districts known as Ohio No. 8, Cambridge, Middle except parts of Trumbull, Mahoning, and Columbiana Counties, and Crooksville except that part west of the Muskingum River and the Baltimore and Ohio Railway.

Chart 10 gives the mine price, the freight rate, and the resulting delivered price for the coal shipped by each of the freight-origin

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CHART 10

Coordination of Delivered Prices for ¾" X 0" Slack at Cleveland, Ohio, 1940
(shown by seam or freight-origin district within a producing district and by grade of coal)



* Assumed grade.

Outside Cleveland.

Source: Report, Proposed Findings of Fact, Conclusions and Recommendations of Trial Examiners, as revised (General Docket No. 15), Bituminous Coal Division, April 1940.

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<i>Producing and Freight-Origin District</i>	<i>Grade of Coal</i>	<i>Rationale as set forth in the Report . . . of Trial Examiners for Market Area 13</i>
<i>4 Ohio</i>		
No. 8	O	"Having considered the comparative distribution, by size groups, of the base coals and of competitive coals within and without District 4, competition among such coals, competition between coal and other forms of fuel and energy, the requirement that due consideration be accorded the interests of the consuming public, the necessity of achieving a realization approximating as nearly as possible the weighted average cost per net ton for Minimum Price Area 1, and after other considerations . . . the Examiners find that \$1.65 per ton is a proper price f.o.b. mine for the Ohio No. 8¾" × 0" coals of District 4 for rail shipment into Market Area 13, and recommend its establishment."
Cambridge	O	This coal appeared to be comparable to Ohio No. 8 and was given the same delivered price.
Middle and Ohio-Middle	O*	The mine price shown in the schedule was \$1.90 but a special reduction of \$.05 on shipments to Cleveland resulted in a delivered price of \$3.49. This, of course, equalized these coals with those of Ohio No. 8.
<i>4 Ohio</i>		
Hocking	O*	The delivered price at Cleveland was \$.15 higher than Ohio No. 8. This reflected an adverse freight rate from these sections to that city. But it is doubtful whether much of this coal entered Cleveland. Probably most of it was sold in the southern part of Market Area 13 where the freight rates were such as to equalize these delivered prices with Ohio No. 8 or even to favor these four freight-origin districts.
Pomeroy	O*	
Crooksville	O*	
Jackson	O	
<i>3 Northern West Virginia</i>		
Sewickley	J	The "relative market values" of the J coals of this district and grade O of Ohio No. 8 were identical. Their delivered prices were, therefore, equalized.

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districts included in our analysis to Cleveland in Market Area 13.³⁴ A study of the chart will disclose two basic mine prices for Ohio coals, one of \$1.65 and the other of \$1.85. Note that all but two of the eight freight-origin districts carry a mine price of \$1.65. This price was arrived at in each instance by deducting from the coordinated market price the freight rate for coal moving from the freight-origin district to the representative destination. The delivered price in Cleveland for Producing Districts 3 and 6 and Avella J of District 2 was \$3.49 per ton, but because the freight rates in these districts were different the resulting mine prices also varied. The delivered prices in Cleveland of the remaining freight-origin districts (Ohio) or producing districts (outside Ohio) were higher than those for Districts 4, 3, 6, and of Avella J of District 2, which suggests that these coals in this particular size had a higher market value.

a) *Rationale of recommended delivered prices.* Since the mine prices were obtained by subtracting the freight rates from the delivered prices, an itemized explanation of the factors, assumptions, opinions, and considerations taken into account by the price-fixing agency in establishing the delivered prices is essential for an understanding of the coordinating procedure (see pages 212-15).

4) *Coordination of prices in Market Area 14.* This market area which lay almost wholly within the Crooksville Freight-Origin

³⁴ Because a breakdown of revised figures on production by *freight-origin districts* was not available for Ohio, it was necessary to use the unrevised data. A comparison of both sets of data for producing districts follows:

*All-Rail Shipments to Market Area 13
(net tons)*

<i>From Producing District No.</i>	<i>Unrevised</i>	<i>Revised</i>
1	27,872	27,872
2	2,300,628	2,390,779
3	957,831	957,831
4	4,275,928	4,426,041
6	73,115	73,115
7	2,413,914	2,413,914
8	925,010	925,010
Total	10,974,298	11,214,562

Data are those published in *Report . . . of Trial Examiners*, p. 509; and *Findings of Fact, Conclusions of Law, and Order of the Director of the Bituminous Coal Division Establishing Effective Minimum Prices and Marketing Rules and Regulations under the Bituminous Coal Act of 1937* [General Docket No. 15] Bituminous Coal Division, August 1940, p. S-25.

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<i>Producing and Freight-Origin District</i>	<i>Grade of Coal</i>	<i>Rationale as set forth in the Report . . . of Trial Examiners for Market Area 13</i>
<hr/>		
6 <i>Panhandle (West Virginia)</i>		
Pittsburgh No. 8	C	“The analytic and burning characteristics” of District 4’s Ohio No. 8 grade O coals “were generally similar to those of the Pittsburgh No. 8 C coals of District 6.” Delivered prices were equalized.
2 <i>Western Pennsylvania</i>		
Avella	J	“The Sewickley J coals of District 3 and the Avella J coals of District 2 have similar physical and analytical qualities and similar burning characteristics. Where they have competed in the past, they have generally sold at equal delivered prices.”
Youghiogheny- Westmoreland	C	It was desirable that this coal should be related to the lower grade Avella J coal by a price differential that would not disturb their existing competitive opportunities. The differential varied with market areas. In Market Areas 1-10 a \$.25 differential was recommended, in Market Areas 11 and 12 it was set at \$.35, and here in Market Area 13 the Examiners found \$.30 to be the proper differential.
8 <i>Southern No. 2</i>		
Island Creek	G	The delivered price of this coal at Cleveland, \$4.14, was \$.65 above the Ohio No. 8 Grade O coal of District 4, but this differential “properly expresses the relative market values of these coals and preserves to each their [sic] existing fair competitive opportunities.” The coals of District 8 moved into Market Area 13 and other midwestern market areas “despite large unfavorable freight rate differentials because their superior quality for the particular applications to which they are applied. Despite the fact that their prices are higher than the Ohio 8 coals, consumer demand and preference for the District 8 coals will not be affected.”

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<i>Producing and Freight-Origin District</i>	<i>Grade of Coal</i>	<i>Rationale as set forth in the Report . . . of Trial Examiners for Market Area 13</i>
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7 Southern No. 1

Low volatile	C	<p>The delivered price of this coal at Cleveland was \$.35 above the price of District 8's Island Creek G coal. This spread was due partly to freight rate differences and partly to quality differences.</p> <table style="margin-left: 40px; border-collapse: collapse;"> <tr> <td style="padding-right: 10px;">Freight rate from District 7 =</td> <td style="text-align: right;">\$2.74</td> </tr> <tr> <td style="padding-right: 10px;">Freight rate from District 8 =</td> <td style="text-align: right;">2.49</td> </tr> <tr> <td style="padding-right: 10px;">Freight rate difference =</td> <td style="text-align: right; border-top: 1px solid black;">\$.25</td> </tr> <tr> <td style="padding-right: 10px;">Quality difference, at \$.05</td> <td></td> </tr> <tr> <td style="padding-right: 10px;"> a "letter" between</td> <td></td> </tr> <tr> <td style="padding-right: 10px;"> C and G =</td> <td style="text-align: right;">\$.20.</td> </tr> </table> <p>The sum of these differences is \$.45. But the producers of the two districts had agreed to reduce the effect of District 7's adverse freight rate \$.10 by establishing a differential of \$.10 between the mine prices. If the mine price of Island Creek G is \$1.65, the mine price of District 7 G becomes \$1.55. This, of course, corresponds to \$1.75 for grade C coals of District 7.</p>	Freight rate from District 7 =	\$2.74	Freight rate from District 8 =	2.49	Freight rate difference =	\$.25	Quality difference, at \$.05		a "letter" between		C and G =	\$.20.
Freight rate from District 7 =	\$2.74													
Freight rate from District 8 =	2.49													
Freight rate difference =	\$.25													
Quality difference, at \$.05														
a "letter" between														
C and G =	\$.20.													

1 Eastern
Pennsylvania

<p style="text-align: center;">E (Outside Cleveland)</p>		<p>The price \$4.14 was arrived at by "projecting" into Market Area 13 the mine price \$2.05 that was determined for movement into Market Areas 1 and 2.</p> <p>"Having considered the comparative distribution, by size groups of the base coals and of competitive coals within and without District 1, competition among such coals, competition between coal and other forms of fuel and energy, the requirement that due consideration be accorded the interests of the consuming public, the necessity of achieving the realization approximating as nearly as possible the weighted average cost per net ton for Minimum Price Area 1, and after other considerations . . . the Examiners find that \$2.05 per ton is a proper price f.o.b. mine for the ¾" × 0" E coals of District 1 for rail shipment into Market Areas 1 and 2, and recommend its establishment."</p>
<p style="text-align: center;">C (Outside Cleveland)</p>		<p>At \$.05 a "letter" the mine price of this coal was \$.10 above that of grade E. The price \$2.15 determined for movement into Market Areas 1 and 2 was "projected" into Market</p>

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<i>Producing and Freight-Origin District</i>	<i>Grade of Coal</i>	<i>Rationale as set forth in the Report . . . of Trial Examiners for Market Area 13</i>
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		Area 13. Note that District 1's E and C coals appear to come from different parts of the district, because their freight rates on westward movements were not identical.
E (In Cleveland)	E	In Cleveland a \$.30 differential between District 1's C slack and District 7's C slack was necessary if District 1's existing competitive opportunities were to be preserved. Therefore, the Trial Examiners recommended that for shipments of District 1's C slack to Cleveland the delivered price be reduced \$.20, bringing it to \$4.19. This was \$.30 below the \$4.49 price of District 7's C slack. A corresponding adjustment of District 1's E slack price reduced it to \$3.94 for shipment to Cleveland.
C (In Cleveland)	C	

* An assumed grade (see discussion on p. 209).

District was, like Market Area 13, one of Ohio's "home-market" areas. Of the 507,637 tons of coal shipped by rail in 1937 to this area, over 90 per cent came from Ohio fields—particularly from Crooksville, Hocking, and Cambridge. It is clear, therefore, that competition from outside districts was inconsequential. The representative destination selected by the Coal Division for Market Area 14 was Zanesville, Ohio.

Reference to Chart 11 will show a more complex pattern of prices for Ohio's freight-origin districts shipping to Zanesville than was the case for such districts shipping to Cleveland, the representative destination for Market Area 13. Three of Ohio's freight-origin districts have been given more than a single minimum delivered price notwithstanding the fact that each of these districts was assigned a single mine price. The reasons for establishing several prices for these districts are not given in *Report . . . of Trial Examiners*. Apparently this action was based, at least in part, on the fact that these districts carried more than one freight rate to the representative destination.

It will be observed that the six Ohio freight-origin districts were assigned seven different minimum delivered prices, but only three different mine prices. It should be noted, however, that the Ohio districts carried six different freight rates to Zanesville. The other producing districts supplying Zanesville were assigned minimum delivered prices which in all cases were higher than those estab-

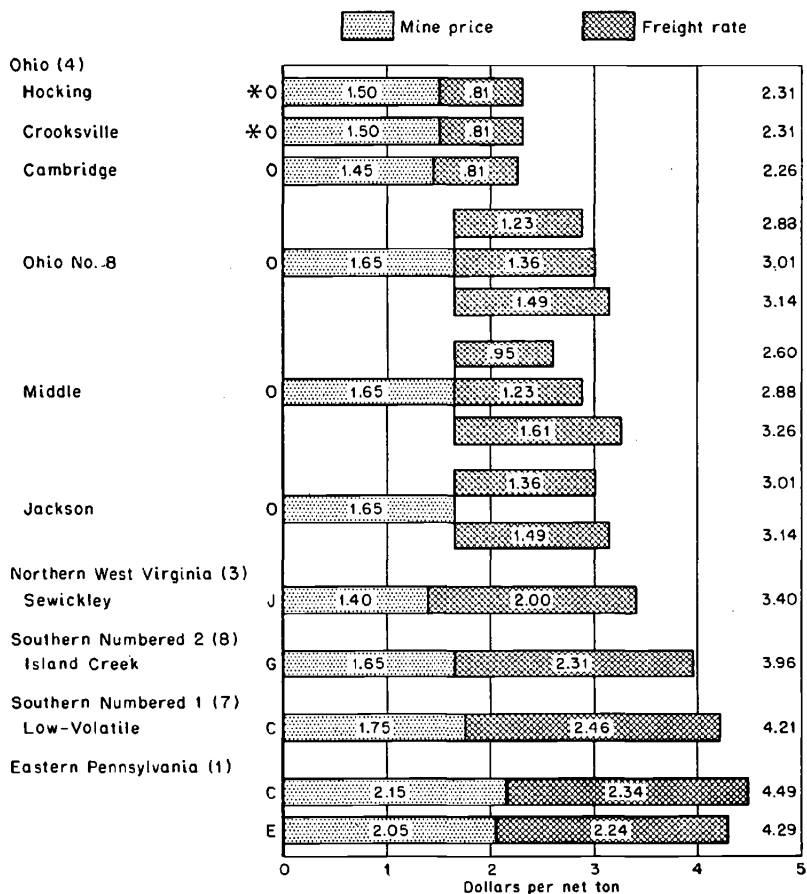
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lished for Ohio. Apparently Ohio coals of this size and grade were inferior to those produced in competing districts.

CHART 11

Coordination of Delivered Prices for All-Rail $\frac{3}{4}$ " \times 0" Slack at Zanesville, Ohio, 1940

(shown by seam or freight-origin district within a producing district and by grade of coal)



* Assumed grade.
Source: See Chart 10.

a) *Rationale of recommended delivered prices.* The explanation given by the Trial Examiners as to why these particular minimum delivered prices were established is presented below:

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<i>Producing and Freight-Origin District</i>	<i>Grade of Coal</i>	<i>Rationale as set forth in the Report . . . Trial Examiners for Market Area 14</i>
<i>4 Ohio</i>		
Hocking	O*	There was considerable competition here with river coals shipped by barge on the Muskingum River. "In order to preserve to all coals their existing fair competitive opportunities in the area and to express the relative market values of the coals, it is necessary that the f.o.b. mine prices for the slack size groups of the Hocking coals be sufficiently low to enable them to move into the destinations of this area at delivered prices equal to those for the water-borne coals, to which considerably lower transportation charges apply. . . . Having considered the comparative distribution, by size groups, of these coals and of competitive coals within and without District 4, competition among such coals, competition between coal and other forms of fuel and energy, the requirements that due consideration be accorded the interests of the consuming public, the necessity of achieving a realization approximating as nearly as possible the weighted average cost per net ton for Minimum Price Area 1, and after other considerations. . . . The Examiners find that \$1.40 per ton is a proper price f.o.b. mine for the Hocking ¾" × 0" . . . coals of District 4 for rail shipment into Market Area 14, and recommend its establishment." That was the price for the Q slack of Hocking. For our diagram, however, we have translated this to an assumed O coal which is, of course, priced \$.10 higher, at \$1.50.
Crooksville	O*	This coal, similar in quality and directly competitive with the Hocking coal in this market area, was given the same price as the Hocking coal.
Cambridge	O	The Trial Examiners recommended what the producers of Hocking and Cambridge had proposed: that a differential of \$.05 a ton between the two coals was necessary to express their relative values and to preserve their existing fair competitive opportunities in Market Area 14. In the freight rate tables no rate was given for Cambridge coal moving to Zanesville, but it is true that to most destinations in Market Area 14 the Hocking and the Cambridge freight rates were identical. Therefore, for Cambridge we have shown a

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<i>Producing and Freight-Origin District</i>	<i>Grade of Coal</i>	<i>Rationale as set forth in the Report . . . Trial Examiners for Market Area 14</i>
		hypothetical freight rate of \$.81 and in consequence a delivered price of \$2.26.
Ohio No. 8	O	The Trial Examiners recommended that Ohio No. 8 coal moving to Market Area 14 take the same mine price as that moving to Market Area 21 where it was more competitive. The \$1.65 price was also applied to coal from this district moving into Market Areas 7, 8, 9, 13, 15, 16, 17, 18, 19, and 20.
Middle	O	This mine price coincides with that of Ohio No. 8. Middle also took the same price for movement to Market Areas 12, 17, 18, and 19. Explanations were not given in the Report of the Trial Examiners.
Jackson	O	This mine price coincides with that of Ohio No. 8. Jackson also took a mine price of \$1.65 for movement to Market Areas 4, 5, 7, 8, 9, 10, 11, 12, 13, 15, 16, 17, 19, 20, and 21. Explanations were not given in the Report of the Trial Examiners.
3 Northern West Virginia		
Sewickley	J	Market Area 14 is the home market area for the coals of Hocking, Crooksville, and Cambridge, and about 92 per cent of the all-rail coal sold there in 1937 came from these sources. In this market area there was no real competition offered by the coals of other districts. Therefore, "the prices for the coals of the districts other than the home district were coordinated for movement into Market Area 14 by projecting into this area the prices applicable for movement to the adjacent area in which active competition of such coals among themselves and with the coals of District 4 occurs, that is, Market Area 13."
8 Southern No. 2		
Island Creek	G	
7 Southern No. 1		
low volatile	C	
1 Eastern Pennsylvania		
	C	It should be noted, however, that "the 20-cent deduction from the base f.o.b. mine prices for the slack size groups of District 1 permitted for movement to Cleveland, Ohio, should . . . not be extended into Market Area 14, since the conditions which justify such deduction exist only in Cleveland."
	E	

* An assumed grade (see discussion on p. 209).

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The coordination of Ohio all-rail coals in Market Areas 13 and 14 followed a definite pattern, although this is not apparent at first glance. It will be noted that a representative destination was selected for each market area. This selection was presumably based upon an analysis of the tonnages of competing coals entering each market area for each size, kind and quality, and use class, as well as by each of the several transportation methods. Base coals were also selected for all the producing and freight-origin districts shipping to these market areas. The letters used by the several districts to indicate various grades of coal in most cases are not comparable for interdistrict comparison because each district board had been concerned only with its own coal when establishing its uncoordinated price schedules. As in Market Area 13, the price-fixing agency used $\frac{3}{4}$ " \times 0" slack as the key size in certain districts and $1\frac{1}{4}$ " \times 0" slack in other districts. The authors, however, translated the $1\frac{1}{4}$ " \times 0" slack prices into $\frac{3}{4}$ " \times 0" slack prices.

The process of establishing destination prices was presumably begun by pricing the principal base coal which in Market Area 13 was grade O slack of Freight-Origin District Ohio No. 8, and in Market Area 14, grade O slack of the Hocking Freight-Origin District of Ohio. Next, destination prices of the competing base coals in each market area were established by relating these coals to the principal base coal. In establishing destination prices of the principal and competing coals, the price fixers apparently did not make use of any yardstick. On the contrary, they accomplished this phase of the coordinating process by weighing pertinent critical factors and conditions, most of which were specified in the Act, and arriving at relative values which were expressed in cents per ton. The data taken into consideration included:

The kinds and qualities of the coals under consideration as reflected by

- Proximate analysis.
- Physical characteristics (size consist, preparation, friability, uniformity, color, general appearance, dustiness or dirtiness, capacity for storing, and tendency to absorb moisture).
- Burning characteristics (caking and coking tendencies, clinker-forming tendency, ability to burn freely).
- Adaptability to different uses and different types of burning equipment.
- Market histories.
- Consumer demand and preference for coal.

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The size of the coal.

The requirement to take relative values into account.

The comparative distribution, by size groups, of the base coal and of competitive coals within and without Ohio (District 4).

Competition between all-rail coals consumed in the market area.

Competition with coals shipped by other methods of transportation (river, truck, etc.).

Competition between these coals and other forms of fuel and energy.

The requirement to maintain "existing fair competitive opportunities."

The interests of the consuming public.

Transportation charges.

The prices recommended by the producers of the district involved.

Finally, the f.o.b. mine prices were obtained by subtracting from the delivered price at the representative destination the per ton freight rate prevailing for coal shipped by each mine to that destination.

f. *Relating estimated average realization to weighted average costs.* The Act provided that minimum prices proposed for a given district should not "reduce or increase the return per net ton upon all the coal produced" in that district below or above the weighted average cost of the minimum price area in which it was located "by an amount greater than necessary to accomplish such coordination, to the end that the return per net ton upon the entire tonnage of the minimum price area shall approximate the weighted average of the total cost per net ton of the tonnage of such minimum price area." (Sec. 4-IIb.)

The process of checking the estimated sales realization to the weighted average costs was accomplished by (1) setting in adjoining columns (a) all shipments of coal from the district as reported by the Distribution Survey for 1937 and (b) the proposed coordinated minimum prices, f.o.b. mine; (2) multiplying the tonnages involved by the coordinated minimum prices, and (3) dividing the sum of the products thus obtained by the total tonnage shipped by the district. The resulting quotient was the "estimated realization" of the district and this figure was compared with the "weighted cost" of the minimum price area within which the district is located.

Table 42 compares the uncoordinated and coordinated prices for

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Ohio. It will be observed that the single uncoordinated price for each size and grade (that is, for each cube) has been replaced by several prices, the number depending upon the sources and markets of the coal. The new coordinated prices were required to yield an average realization which would approximate the average of the uncoordinated prices and also approximate the average cost of Minimum Price Area 1.

Unfortunately, tonnage figures are not available in sufficient detail to illustrate the method used to relate average realization and average weighted costs. Available data, however, indicate that the average realization of the coordinated prices of Ohio was somewhat below both the average realization of the uncoordinated prices and the average cost of Minimum Price Area 1.

An examination of Table 42 will disclose that the coordinated prices of size groups 1, 2, 3, and 4 (lump and double-screened sizes down to but not including 2" top-size) were, on the whole, below the uncoordinated price which they replaced. If the prices for most of these size groups were charted, the resulting diagram would resemble the downward sloping fan pattern shown in Figure A. The average of these coordinated prices would have to be below the original uncoordinated price. If the coordinated prices for size groups 5, 6, 7, and 8 (double-screened sizes 2" top-size and under, as well as slack sizes and mine-run coal) were charted, the typical diagram would be a fan pattern showing a fairly even distribution of coordinated prices above and below the original uncoordinated price (Figure B). In this instance the average of the expanded

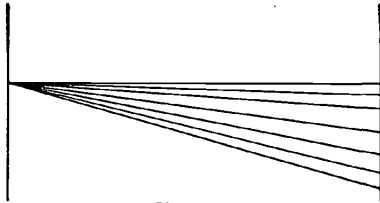


Figure A

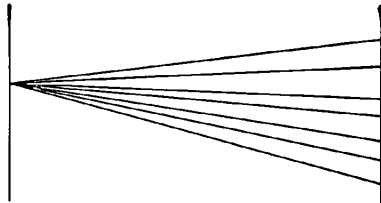


Figure B

prices might well equal the initial uncoordinated price. Inasmuch as size groups 1 to 4 inclusive probably accounted for about one third of the district's all-rail coal, the coordinating process may have resulted in a definite scaling down of minimum prices below the original uncoordinated prices.³⁵

³⁵ Based on an analysis of 5.6 million tons of all-rail shipments of Ohio coal in 1937 to Market Areas 4, 5, 7, 9, 10, 11, 12, 13, and 14. The sample

TABLE 42 (concluded)

Grade	Size Group							
	1	2	3	4	5	6	7	8
Q	2.70	2.60	2.40	2.35	2.25	2.25	2.05	1.95
	2.55	2.45	2.25	2.20	2.10	2.10	1.90	1.80
	2.45	2.35	2.10	2.05	1.95	1.95	1.75	1.65
	2.30	2.20	2.00	2.00	1.85	1.85	1.65	1.55
	2.65	2.55	2.35	2.25	2.00	2.10	1.65	1.59
	2.20	2.10	1.90	1.95	1.75	1.75	1.60	1.50
	2.15	2.05	1.84	1.85	1.59	1.59	1.55	1.45
	2.03	1.93	1.73	1.84	1.58	1.44	1.44	1.40
	1.99	1.89		1.75		1.40	1.40	1.34
				1.68		1.38	1.38	1.28
R	2.40	2.30	1.95					
	2.25	2.15	1.85					
	2.15	2.05	1.79					
	2.60	2.50	2.30					
	2.10	2.00	1.68					
	1.98	1.88						
	1.94							

Source: Uncoordinated prices from Table 39.
 Coordinated prices from the *Federal Register*, August 24, 1940, pp. 3065-70.

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Since the uncoordinated minimum prices for District 4 yielded a return which was equal to the weighted average cost of Minimum Price Area 1, the coordinated prices had of necessity to yield something less than this. This discrepancy cannot be taken to be a contravention of the law's requirements, since the lower level of minimum prices in Ohio may have been necessary to preserve the proper competitive relationships between the coals of District 4 and the coals of competing districts. Such action is provided for by the Act.

In concluding this section on coordination of prices of all-rail coal, we should point out that the actual coordination process was much more complex than that described above. The discussion of coordination dealt with a limited number of grades of coal; actually there were many more grades and hence many more prices. It also dealt with a single size— $\frac{3}{4}$ " \times 0" slack—instead of the many sizes and consequently many prices. Moreover, the price-spread between the sizes in a certain district was not necessarily uniform from one market area to another. For example, although $\frac{3}{4}$ " \times 0" slack of a given district sold equally well in two market areas, the demands for domestic sizes of coal may have been totally dissimilar in the two market areas, necessitating prices that gave different spreads from the $\frac{3}{4}$ " \times 0" slack. Some of these situations were discussed by the Trial Examiners in their *Report*, but space limitations prevent us from dealing with them.

The reader must not, of course, suppose that the delivered prices at the "representative destinations" were the only prices in effect in the market areas concerned. "Representative destinations" were used by the Coal Division simply to facilitate discussion of relationships between the delivered prices of coal. Actually, there may have been many delivered prices for a single coal throughout a single market area, owing to the numerous freight rates in effect.

amounted to 64 per cent of Ohio's all-rail shipments. Data are taken from two unnumbered Exhibits of the Bituminous Coal Division:

1. "All-Rail Shipments of Bituminous Coal Exclusive of Railroad Fuel as reported on forms D-1 and D-2 for Calendar Year 1937 and Realization Obtainable Thereon from Proposed Coordinated Minimum Prices Price Area 1, Interim Summaries by Market Area Districts No. 1-8 to all destinations in Market Areas 1, 2, 3, 4, 5, 6, and 8. Dated July 18, 1939."
2. Same title except "to all destinations in Market Areas 7, 9, 10, 11, 12, 13, and 14. Dated July 22, 1939."

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4. COORDINATION OF OHIO RAILROAD FUEL

Railroad fuel comprised all coal purchased by railroads for their own consumption, whether in locomotives, powerhouses, round-houses, or for other uses. Of the total Ohio coal sold as railroad fuel about 85 per cent was consumed in locomotive boilers.³⁶

Railroad fuel loaded on railroad cars at the mine could have travelled to its destination in the following ways:

1. In cars in continuous overland travel
2. In cars hauled overland and then moved in cars by lake ferry
3. In cars to the lake shore and then transferred from the cars to a lake vessel for further transportation

Two coordinated minimum-price schedules were established—one for the first two types of movements and another for the third.

a. *Ohio minimum prices for railroad fuel other than for lake cargo railroad fuel.* Table 43 presents the minimum prices for Ohio

TABLE 43

Minimum Prices for Ohio Railroad Fuel Other than Lake Cargo Railroad Fuel
(dollars per net ton, f.o.b. mine)

Schedule and Consuming Railroad	Type of Mine	Size Group					
		1, 2, 3, 4, & 5	6 Run Lump and Double- Screened Coal	7 & 8 Slack 2"×0" and under	9 Dedusted Screen- ings	10 Sub- standard Coal	12 Crushed Coal
Uncoordinated ^a		2.35	2.20				
Coordinated ^b							
C. & O. R.R.	Deep	2.25	2.10	1.70	1.85		2.10
Group A	Deep	2.20	2.05	1.65	1.80		2.05
Group B	Deep	2.10	1.95	1.55	1.70	1.55	1.95
Group A	Strip	2.10	1.95	1.55	1.70	1.55	1.95
Group B	Strip	2.00	1.85	1.45	1.60	1.45	1.85

^a *Federal Register*, January 11, 1939, p. 138.

^b *Federal Register*, August 24, 1940, pp. 3065 and 3070.

railroad fuel other than that hauled overland to the lake shore and then transferred to vessels for further movement.

³⁶ Based on data shown in Table 38 and figures on locomotive fuel tonnage presented in "Railway Locomotive Fuel—1937: Prices Paid and Distribution" (preliminary analysis prepared in the Office of the Consumers' Counsel), p. 6.

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It will be noticed that in pricing railroad fuel, the size groups were telescoped and that only six columns were needed instead of the twelve required in other schedules. This action was taken because large lump and egg sizes had no technical advantage over the small lump and nut sizes when stoked in a locomotive boiler and, therefore, could not command a price differential.

Because the locomotive boiler is a less efficient energy producer than the stationary steam plant, the distinctions in coal quality which are properly made for the latter are somewhat blurred for locomotive coal. Moreover, a railroad not uncommonly purchased coals of unequal qualities from two districts simply because such hauling was more convenient than moving a heavier tonnage from a single district. For these reasons Table 43 does not show fine distinctions between coal qualities. It does, however, make a rough distinction between deep-mined coal and strip-mined coal.

The prices shown in this table are not differentiated by freight-origin districts and market areas. Coal purchased "on-line" by a railroad company for its own use does not incur a freight charge—the cost of hauling it is simply charged to general operating expense. Coal purchased "off-line" by a railroad company incurs freight charges only for that portion of the haul performed by another carrier. Therefore, the coordination-at-destination formula employed in the construction of other price schedules did not apply in pricing railroad fuel.³⁷

The schedule of prices shown in Table 43 groups into three classes the railroad companies purchasing Ohio coals. The C. & O. Railroad had to pay the highest minimum prices. The remaining railroads were classified as group A and group B. The minimum prices for group B railroads were \$.10 a ton below those of group A.

Group A Railroads

Baltimore and Ohio Railroad
Detroit, Toledo and Ironton Railroad
Erie Railroad (Applies to Mine 53)
Federal Valley Railroad
New York Central System
Pennsylvania Railroad
Pittsburgh, Lisbon and Western Railroad
Pittsburgh and West Virginia Railway
Wheeling and Lake Erie Railway
Youngstown and Suburban Railway

Group B Railroads

Akron, Canton and Youngstown Railway
Ann Arbor Railroad
Canadian National Railways and Grand Trunk Railway System
Canadian Pacific Railway
Detroit and Toledo Shoreline Railroad
Erie Railroad
Nickel Plate Road
Pere Marquette Railway

³⁷ "Off-line" purchasers of railroad fuel do, of course, pay some sort of freight charge to the forwarding railroad, but this charge does not provide a general basis for coordinating railroad fuel prices.

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Because the bases used to size, grade, and price railroad fuel differed from those used for coals of general use; the minimum prices for railroad fuel could not be coordinated with the price schedules for all-rail coal discussed earlier in this chapter. For this reason, the coordinating process for railroad fuel was limited to railroad fuel competing in common markets.

The Coal Division began its task of coordination by proposing \$2.05 as the price for deep-mined run-of-mine coal in District 4, or approximately the competitive price current at the time when the coordination began. The next step was to price the railroad fuel of Districts 2, 3, and 11 by applying appropriate differentials to the railroad fuel price of District 4.³⁸ The Division then extended the process to other competing districts. The prices and the explanations of their interrelationships are presented on pages 228-229.³⁹

³⁸ *Report . . . of Trial Examiners*, pp. U-13 and U-14.

³⁹ District 10 (Illinois) has not been included in our analysis because of a multiplicity of railroad fuel prices and because the inclusion of one or two prices for Illinois would not give a true picture for the area. The tonnages of railroad fuel shipped in 1937 from Districts 1-15 are shown below. The tonnages in the first column were obtained from the Coal Division's Exhibits P-787, P-790, P-794—P-798, and P-800—P-809 ("Total Distribution of 'Priced' and 'Unpriced' Coal in Calendar Year 1937" for Districts 1-11). The second column shows movements of coal for which no scheduled prices were applicable, that is coal produced by non-code members, tonnages of mines active in 1937 but since closed down or out of business, etc. These data were published in the Coal Division's Exhibit P-785 ("Distribution of Shipments of 'Unpriced Coal' to All Market Areas, Lakes, and Tidewater, including Railroad Fuel, Districts 1-15," 1939).

<i>Producing District</i>	<i>Railroad Fuel</i> <i>(net tons)</i>	
	<i>Priced</i>	<i>Unpriced</i>
1	8,429,595	254,736
2	10,458,693	691,034
3	8,455,162	76,077
4	8,455,584	91,859
5	36,221	7,229
6	1,026,666	
7 Low-Volatile	634,284	85,921
7 High-Volatile	403,018	
8 Low-Volatile	27,057	
8 High-Volatile	12,158,552	1,190,253
9	2,463,601	150,362
10	15,004,760	602,300
11	4,920,256	450,857
12	572,758	151,889
13	3,284,930	433,366
14	155,894	16,390
15	1,913,530	36,167
Total, Districts 1-15	78,400,561	4,238,440

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<i>Producing District</i>	<i>Price Run-of-Mine (dollars per net ton, f.o.b. mine)</i>	<i>Rationale as set forth in the Report . . . of Trial Examiners</i>
4 Ohio	2.05	This price approximated the price current when coordination was undertaken.
2 Western Pennsylvania	2.05	Despite quality differences, this coal was priced the same as District 4's coal, in this way continuing the then-existing relationship under which east-west railroads running through both Districts paid the same price in each.
3 Northern West Virginia	1.85	This coal had customarily sold at a \$.20 differential below the District 2 price because its production costs have been lower than similar costs in Western Pennsylvania. The relationship was preserved.
11 Indiana	1.85 ^a	Certain east-west railroads purchased for their own use egg coal in District 11 and run-of-mine coal in District 4. They considered the former to be inferior to the latter and they customarily paid a lower price for it. The \$.20 differential was continued.
1 Eastern Pennsylvania	2.05	District 1's cost of production was higher than that in District 2, but if this coal had been given a higher price the large east-west railroads might have bought all their coal in Districts 2 and 4. An equal price seemed advisable to preserve existing fair competitive opportunities.
5 Michigan	3.55	This price reflected the high cost of production in District 5.
6 Panhandle (West Virginia)	2.05	Equality with the District 4 price was established to maintain existing fair competitive relationships between District 6 and competing Districts.
7 Southern No. 1 High-Volatile	2.15	These prices, said the Trial Examiners, would preserve the existing fair relationships of the District 7 producers among themselves and with other Districts.
Low-Volatile	2.35	

^a This price was for egg coal, and not for run-of-mine.

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Producing District	Price Run-of-Mine (dollars per net ton, f.o.b. mine)	Rationale as set forth in the Report . . . of Trial Examiners
8 Southern No. 2 High-Volatile	2.15	These prices were equated with those of comparable coals of District 7, in order to maintain existing fair competitive opportunities.
Low-Volatile	2.35	
9 West Kentucky	1.65	Coals from West Kentucky compete with coals from Districts 8, 10, 11, and 13. The price proposed was established to preserve existing differentials.

The coordinated railroad fuel prices just described were modified to meet the requirements of eight off-line railroads. The Division found that if these prices were applied without exception, the sales of railroad fuel to these eight off-line railroads would suffer because they could buy their coal elsewhere to better advantage. For example: "The Erie Railroad has customarily purchased from District 4 for \$.10 less than it has paid to Districts 1 and 2. The Erie Railroad can purchase coal from District 2 for \$2.05 and from District 1 at \$2.05. To preserve the movement from District 4 to this carrier it was necessary to reduce the District 4 price \$.10 or increase District 1 and District 2 prices \$.10. The coordinated price for District 4 sales of mine-run coal to that carrier is \$1.95. The Examiners find that that price approximates the cost of production and avoids raising the price to the Erie Railroad in respect to purchases from Districts 1 and 2."⁴⁰

For similar reasons seven other off-line railroads were granted the right to buy District 4 coal at 10 cents below the regular price. These eight railroads are listed as group B on page 226. Thus, excluding the C. & O. Railroad, an Ohio coal of a given size sold for railroad fuel had to take one of four classes of prices, depending upon whether it came from a deep mine or a strip mine and whether it went to a railroad in group A or one in group B (see Table 43).

It should be pointed out that the coordinated minimum prices of railroad fuel were a little below the level of the old uncoordinated minimum prices for railroad fuel. This parallels the trend disclosed for all-rail coals.

b. *Ohio minimum prices for lake cargo railroad fuel.* Table 44 presents the coordinated minimum prices of railroad fuel which

⁴⁰ Report . . . of Trial Examiners, pp. U-59 and U-60.

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is shipped in railroad cars to "dumping ports" on the Lakes, transferred to lake vessels and delivered at the receiving port (ultimate lake destination) to the consuming railroad. A comparison with Table 43 will disclose combinations of size groups for lake cargo railroad fuel which differed markedly from those presented in the discussion of the coordination of railroad fuel other than lake cargo

TABLE 44
Coordinated Minimum Prices for Ohio Railroad Fuel
Shipped as Lake Cargo to Market Areas 98 and 99, 1940
(dollars per net ton, f.o.b. mine)

Freight-Origin District	Type of Mine	Size Group						
		1 & 2	3 & 4	5 & 6	7	8	9 & 12	10
Ohio No. 8, Cambridge and Ohio-Middle	Deep	1.93	1.88	1.83	1.63	1.53	1.78	
	Strip	1.83	1.78	1.73	1.53	1.43	1.68	1.38
Hocking, Pomeroy and Crooksville	Deep	1.93	1.88	1.83	1.53	1.43	1.68	
	Strip	1.83	1.78	1.73	1.53	1.43	1.68	1.38
Jackson	Deep	1.93	1.88	1.83	1.63 ^a	1.53 ^a	1.78 ^a	
	Deep				1.53 ^b	1.43 ^b	1.68 ^b	
	Strip	1.83	1.78	1.73	1.53 ^c	1.43 ^c	1.68 ^c	1.38 ^c
Middle and Leetonia	Deep, Grade O	2.08	2.03	1.98	1.78	1.68	1.93	
	Deep, Grade Q	1.98	1.98		1.68	1.58	1.83	
	Strip, Grade Q	1.98	1.93	1.88	1.68 ^d	1.58 ^d	1.83 ^d	1.53 ^d

^a Grade O.

^b Grade Q.

^c For two mines the grade assigned was Q and for one mine M.

^d For one mine the grade assigned was O.

Source: *Federal Register*, August 24, 1940, pp. 3065 and 3071.

fuel. In their discussion of the schedule for lake cargo railroad fuel, the Examiners observed that "these f.o.b. mine prices will vary according to mine index numbers when the transportation rates vary so as to enable all producers competing for railroad fuel business to deliver their coals in the sizes suitable for railroad fuel at the customary differentials."⁴¹

The price schedule for lake cargo railroad fuel exhibits some of the characteristics of regular railroad fuel in that it took no close account of quality, except in making a distinction between deep and strip mines in certain freight-origin districts. It resembles lake cargo coal price schedules in making a price distinction between the coals of certain freight-origin districts and thus reflecting the influence of freight rate differences.

⁴¹ *Ibid.*, p. U-62.

COORDINATED MINIMUM PRICES

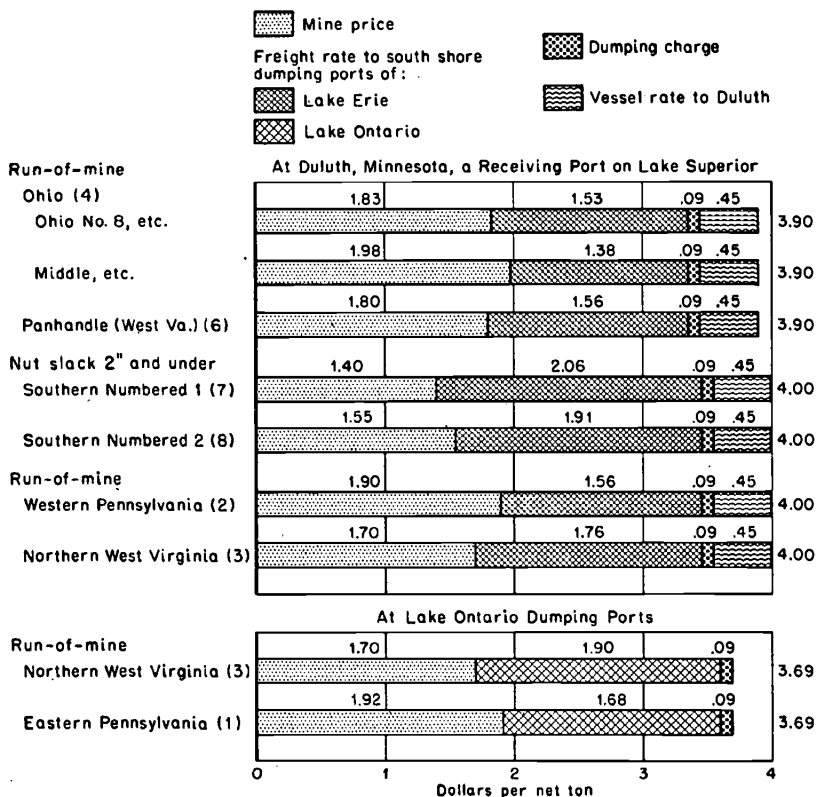
In coordinating these Ohio coals with those of competing districts, the Coal Division selected the run-of-mine size (size group 6) from deep mines in Freight-Origin District No. 8 of Ohio as the base coal and gave it an f.o.b. mine price of \$1.83. Duluth was selected as the representative port for coordinating purposes. To obtain the delivered price at Duluth (see Chart 12) it was necessary to add the following price items to the \$1.83 f.o.b. mine price:

Freight rate to a Lake Erie dumping port	\$1.53
The dumping charge	.09
Vessel rate for moving coal from a Lake Erie dumping port to Duluth, a Lake Superior receiving port	.45
Total	\$2.07

The delivered price thus was \$3.90.

CHART 12

Coordination of Delivered Prices for Lake Cargo Railroad Fuel, 1940
(shown by kind of coal and by producing or freight-origin district)



Source: See Chart 10.

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Selected coals of the Middle and Leetonia Freight-Origin Districts were next coordinated with the Ohio No. 8 coal. The coals from these freight-origin districts moved to Duluth on a freight rate of \$1.38. To equate the prices at Duluth it was necessary to raise the f.o.b. mine prices of the selected mines to \$1.98. The coals from Panhandle West Virginia (District 6) were considered comparable to the No. 8 coal and were assigned the same destination price, but, because of a \$.03-a-ton higher freight rate, the mine price was fixed at \$1.80.

The lake cargo railroad fuel from Districts 2, 3, 7, and 8 had customarily enjoyed a quality differential of \$.10 a ton over the coals of Districts 4 and 6. The Trial Examiners, therefore, recommended that the coal of these districts should be priced at \$4.00 at Duluth. It should be noted that Districts 7 and 8 shipped not run-of-mine coal, but nut slack 2" and under. Since this screened size competed directly with the run-of-mine of other districts, it has been included in Chart 12 showing the relationship between f.o.b. mine price and the destination price.

The coal of District 1 did not compete in the western ports. It was necessary, therefore, to choose another representative destination for its coordination. Inasmuch as this coal and that of Northern West Virginia had sold at the same prices at the dumping ports of Lake Ontario for many years, the prices at these ports were equated at \$3.69, which resulted in an f.o.b. mine price of \$1.70 for coal shipped from District 3 and a mine price of \$1.92 for coal moving from District 1.⁴²

5. COORDINATION OF OHIO LAKE COAL OTHER THAN LAKE CARGO RAILROAD FUEL

In addition to lake cargo railroad fuel there was a substantial quantity of coal shipped to the lake ports for consumption on lake vessels and as general cargo. Of the 1,761,241 tons of coal (other than lake cargo railroad fuel) which were shipped to piers on Lake Erie in 1937, about one-quarter (466,990 tons) was consumed by lake vessels and three-quarters (1,294,251 tons) were transported as general cargo.⁴³ For clarity of presentation these two types of lake coal will be considered separately.

⁴² Lake cargo railroad fuel is discussed in the *Report . . . of Trial Examiners*, pp. U-26 to U-111, *passim*. Pertinent figures on transportation charges will be found in the same work on p. W-174-E.

⁴³ "Shipments of Bituminous Coal to Lake Ports exclusive of Railroad Fuel, as Reported on Forms D-1 and D-2 for Calendar Year 1937 and Reali-

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a. Ohio lake cargo coal other than railroad fuel and vessel fuel.

Table 45 presents the coordinated minimum prices for coal shipped as general cargo to the lakes.

A comparison of this price schedule with the coordinated mini-

TABLE 45

Coordinated Minimum Prices for Ohio Lake Cargo Coal Other than Railroad and Vessel Fuel Shipped All-Rail to Great Lakes Piers, 1940 (dollars per net ton, f.o.b. mine)

Freight-Origin District	Grade	Size Group						
		1 & 2	3 & 4	5 & 6	7	8	9 & 12	10
Other than Middle and Leetonia ^a	K	2.13						
	M	2.03		^b	1.73	1.63	1.78	1.58
	O	1.93	1.88	1.83	1.63	1.53	1.78	
	Q	1.83	1.78 ^c	1.73	1.53	1.43	1.68	1.38
Middle and Leetonia	R	1.83	1.83					
	O	2.08	2.03	1.98	1.78	1.68	1.93	1.63
	Q	1.98	1.98 ^d	1.88	1.68	1.58	1.83	1.53
			1.93 ^e					

^a Ohio No. 8, Cambridge, Hocking, Pomeroy, Crooksville, Jackson, and Ohio-Middle.

^b One mine whose size group 3 was of M grade was assigned a price of 1.88.

^c Five deep mines whose size group 4 was of Q grade were assigned a price of 1.83. Those priced at 1.78 were strip mines.

^d Deep-mined.

^e Strip-mined.

Source: *Federal Register*, August 24, 1940, pp. 3065 and 3071.

mum prices for lake cargo railroad fuel (Table 44) discloses that both schedules report prices for the same sizes or combinations of sizes of coal. In other respects there is little resemblance. The price schedule for general cargo shipments, as presented in Table 45, grouped the various freight-origin districts into two classes and differentiated for grades of coal. In this respect it differed from the price schedule for railroad fuel moving as lake cargo (see Table 44) which gave little importance to grades of coal and made use of a larger number of groupings of freight-origin districts. The schedule for general cargo shipments, furthermore, did not differentiate between deep and strip coal, except for some coal in size groups 3 and 4. It will be observed, however, that the prices reported for deep-mined railroad fuel moving as lake cargo to Market Areas 98 and 99 (Table 44) from Ohio No. 8, Cambridge,

zation Obtained thereon from Proposed Coordinated Minimum Prices, Price Area 1—Interim Summary by Lake Ports, District Nos. 1-8," unnumbered Exhibit, Bituminous Coal Division, 1939, sheet 6.

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Ohio-Middle, and Jackson were the same as those established for the grade O coals moving to the lakes as general cargo.

The prices of general cargo coals for lake shipments, unlike those for railroad fuel, were coordinated at specific destinations. The delivered price, therefore, consists of the f.o.b. mine price, the freight rate, plus a charge that is made for dumping the coal into vessels.

The representative destinations selected to illustrate coordination were the "dumping ports" on the south shore of Lake Erie. Reference to Table 46 will disclose that of the lake cargo shipments

TABLE 46
Lake Cargo Shipments Other than Railroad and Vessel Fuel
from Major Producing Districts, 1937
(net tons)

Producing District	Through Lake Erie Ports to Ultimate Destination		Through Lake Ontario Ports to Ultimate Destination East of the Line ^a
	West of the Line ^a	East of the Line ^a	
1	245,741	980,103	359,423
2	6,201,610	2,862,081	230,340
3	1,115,088	411,091	73,054
4	1,055,511	238,740	
6	228,365	35,398	1,014
7 Low-Vol.	6,300,954	1,541,498	
7 High-Vol.	14,361		
8 Low-Vol.	24,041	14,550	
8 High-Vol.	17,052,855	826,323	
Total	32,238,526	6,909,784	663,831

^a The Port Maitland Line, a line drawn just west of Port Maitland, Ontario, on the north shore of Lake Erie to that point on the south shore of Lake Erie where the New York and Pennsylvania state lines meet. With respect to lake cargo coal, all lake points west of this line were in Market Area 99, and those east of it were in Market Area 98. See *Report, Proposed Findings of Fact, Conclusions and Recommendations of Trial Examiners*, as revised (General Docket No. 15), Bituminous Coal Division, April 1940, p. W-71.

Source: Coal Division's Exhibit No. P-788, "Lake Realization Adjustments to Reflect Deliveries East and West of Port Maitland Line, 1937, Districts 1, 2, 3, 4, 6, 7 and 8" (revised), dated September 10, 1939, p. 1.

from seven districts to the Great Lakes in 1937, only a small portion—663,831 tons (less than two per cent) of a total of 39,812,141 tons—moved directly to Lake Ontario ports. For this reason these ports were rejected as points at which to illustrate the coordination of lake cargo coal. The Lake Erie ports, on the contrary,

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not only handled more than 39 million tons of lake cargo coal but received shipments from all freight-origin districts serving these ports. The Lake Erie ports were, therefore, the logical choice to illustrate the coordination process. Either the dumping ports or the receiving ports could have been used for this purpose, but since the use of the dumping ports on the south shore of Lake Erie simplified the task of presentation and was just as satisfactory, they were selected to illustrate the coordination process for this coal.

In coordinating the prices of all-rail coal, the Coal Division began the process by establishing the f.o.b. mine price of a base coal from an important district and then added the freight rate to obtain the delivered price at the agreed-upon representative destination. This delivered price became the nucleus for coordination. The same approach was undoubtedly followed in the case of lake cargo coal, although the Trial Examiners did not say so. Their *Report*, furthermore, failed to specify the principal base coal. Presumably, the high-volatile Island Creek grade G, size $\frac{3}{4}$ " \times 0" slack of District 8 (Southern Numbered 2) was selected for this purpose. This deduction is based on the fact that District 8 was by all odds the most important shipper of lake cargo coal (see Table 46) and was therefore the logical choice for a starting point for coordination. Moreover, the f.o.b. mine price of \$1.65 per ton which was set for this coal when shipped as general cargo coal to ports on Lake Erie's south shore was the f.o.b. mine price for this size and grade when shipped as all-rail coal from District 8 to 159 market areas, including all those contiguous to Lake Erie.

Chart 13 shows how the prices of lake cargo coal were coordinated at the dumping ports on Lake Erie's south shore. To the f.o.b. mine price of \$1.65 for grade G, size $\frac{3}{4}$ " \times 0" slack coal of District 8 were added a freight charge of \$1.91 and a dumping charge of \$.09 a ton. This gave a delivered price of \$3.65 to which the prices of most of the other coals were related. As pointed out in the Trial Examiners' explanation of price coordination, the established minimum prices for District 7 and the C coal of District 1 reflected adjustments in their freight charges.

The explanation given by the Trial Examiners of the minimum prices for lake cargo coal which were established for the various competing freight-origin districts are shown in Table 47.

Reference to Chart 13 will disclose that the freight-origin districts in Ohio fall into two groups. Two of these districts, Middle and Leetonia, carried an f.o.b. mine price of \$1.68 and the remaining seven districts a price of \$1.53. The reason for the \$.15 dif-

TABLE 47
 Explanation of Coordination of Prices for Selected Grades of Lake Cargo Coal at Lower Lake Erie Ports, 1940
 (dollars per net ton)

<i>Producing and Freight-Origin Districts</i>	<i>Grade</i>	<i>Mine Price</i>	<i>Freight Rate</i>	<i>Dumping Charge</i>	<i>Delivered Price</i>	<i>Rationale as Set Forth in Report . . . of Trial Examiners</i>
8 <i>Southern No. 2</i> Island Creek	G	1.65	1.91	.09	3.65	The Trial Examiners do not say so, but it seems likely that this coal was used as the basis for lake coal coordination for reasons discussed in the text.
7 <i>Southern No. 1</i> Low-Volatile	C	1.75	2.06	.09	3.90	As with all-rail coal, the producers of Districts 8 and 7 had agreed to offset the effect of District 7's adverse freight rate of .10 by establishing a differential of .10 between the mine prices. Thus, with District 8's G coal priced at 1.65, District 7's G coal would be priced at 1.55. District 7's C coal being four grades (.20) above G was accordingly priced at 1.75.
4 <i>Ohio</i>						The Trial Examiners recommended a delivered price for District 4's coals that was .50 below the delivered price of District 8's Island Creek G coal. This price reflected relative market values at the lower lake ports and preserved existing competitive opportunities between the two districts.
Ohio No. 8	O					
Cambridge	O					
Hocking	O ^a					
Pomeroy	O ^a	1.53	1.53	.09	3.15	
Crooksville	O ^a					
Jackson	O					
Ohio-Middle ^b	O ^a					
Middle	O	1.68	1.38	.09	3.15	
Leetonia	O ^a					
3 <i>Northern</i>						
West Virginia	J	1.30	1.76	.09	3.15	As was true of all-rail movement to Market Area 13, these coals were assigned delivered prices equal to the delivered prices of District 4's
Sewickley						

TABLE 47 (concluded)

<i>Producing and Freight-Origin Districts</i>	<i>Mine Price</i>	<i>Freight Rate</i>	<i>Dumping Charge</i>	<i>Delivered Price</i>	<i>Rationale as Set Forth in Report . . . of Trial Examiners</i>
6 <i>Panhandle (West Virginia)</i>					grade O coals, 3.15. For explanation of this action see rationale of price coordination for all-rail coal from these districts to Market Area 13 (see pages 212-213 of this chapter).
2 <i>Western Pennsylvania</i>	1.50	1.56	.09	3.15	
<i>Avella</i>	1.50	1.56	.09	3.15	
<i>Youghiogeny-Westmoreland</i>	1.95	1.41	.09	3.45	The delivered price of this coal was .30 above that of the Avella J coal of the same district. This was identical with the differential recommended by the Trial Examiners for all-rail movements of these coals to Market Area 13.
1 <i>Eastern Pennsylvania</i>	1.95	1.56	.09	3.60	At <i>Lake Ontario ports</i> , as in the case of all-rail movements into Market Area 2, the District 1 Class E $\frac{3}{4}$ " \times 0" slack had a delivered price which was .05 above the class C $\frac{3}{4}$ " \times 0" slack of District 2. This differential preserved the existing fair competitive opportunities of the two districts. At <i>Lake Erie ports</i> , however, the coal of District 1 was quantitatively less important than the coal of District 2. The Trial Examiners recommended an additional differential of .10, which would not, in their opinion, substantially affect the sale of District 1's coal. (In Market Area 98, shipments of District 1's coal enjoyed a .07 vessel rate advantage over District 2's coal.) The total differential allowed was therefore .15. Because the District 2 Youghiogeny-Westmoreland C coal had a delivered price of 3.45, the price for E coal in District 1 was set at 3.60.
C	2.05	1.83	.09	3.97	The f.o.b. mine price was set two grades (or .10) above the f.o.b. mine price of the E coal of this District.

^a An assumed grade (see discussion, p. 209).

^b Delivered price not available.

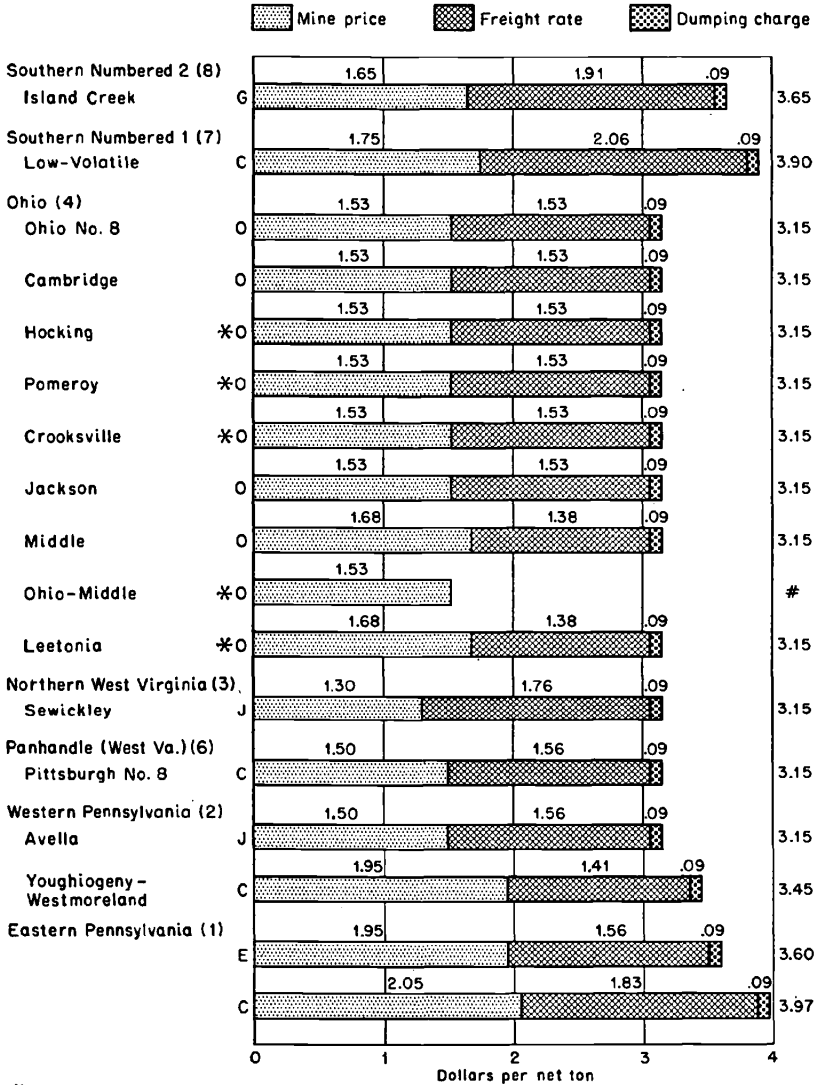
Source: *Report, Proposed Findings of Fact, Conclusions and Recommendations of Final Examiners*, as revised (General Docket No. 15), Bituminous Coal Division, April 1940.

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CHART 13

Coordination of Delivered Prices for Lake Cargo Coal $\frac{3}{4}$ " \times 0" Slack at Lower Lake Erie Ports, 1940

(shown by seam or freight-origin district within a producing district and by grade of coal; delivered prices are f.o.b. vessel for shipment to all destinations on the Great Lakes)



* Assumed grade.

Delivered price not available.

Source: See Chart 10.

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ferential is to be found in the freight rates that applied to lake cargo coal for these two groups of freight-origin districts. The adjusted mine rates permitted the grade O coals from Ohio to compete at the same delivered price. A glance at Table 45 will show that the \$.15 differential has been allowed for the Q as well as the O coal, the latter being the only other coal shipped by the Middle and Leetonia freight origin districts as lake cargo coal.⁴⁴

It should be noted that the price coordination of lake cargo coal was related to all-rail coal price coordination in two ways: (a) the f.o.b. mine price recommended for the all-rail coal of District 8 was also the f.o.b. mine price for the corresponding lake coal, and (b) some of the delivered price differentials that were recommended for all-rail coal in Market Area 13 were carried over into the coordination of lake cargo coal. A comparison of the diagram for lake cargo coal with that of all-rail coal in Market Area 13 (see Chart 10) reveals a lower level of delivered prices for the lake cargo coal because the freight rate from District 8 to Lake Erie was lower for lake cargo coal than for all-rail coal.⁴⁵

The level of the prices of coal shipped as general cargo to the lakes was, as a comparison of Table 45 and Figure 6 will show, considerably below the uncoordinated prices for the same sizes and grades. As with all-rail shipments and railroad fuel, the tendency of coordinated prices has been downward.

An official statement prepared by the OPA pointed out that in a number of instances the minimum price schedules for lake cargo coal were lower than those for corresponding coals shipped all-rail. This deviation was "based upon the seasonal character of transportation on the Great Lakes, which are not navigable during the winter months. This seasonal factor requires Great Lakes dock operators to take delivery during the open navigation season and store the coal pending the peak selling period during the burning season. Because Lake coal has customarily moved during the off season and has thus afforded the mines an opportunity to realize the economies flowing from a balanced year-round production and because of the expenses, including degradation, incidental to the

⁴⁴ "Study of Rail Transportation Charges Applying from Freight Rate Groups to Destinations in Market Areas Nos. 1 to 8, inclusive," Exhibit P-159, Bituminous Coal Division, p. 52.

⁴⁵ Much of the preceding discussion, diagram, and rationale is based on the *Report . . . of Trial Examiners*, pp. W-70-W-149 and W-174-A. Corroborative data on freight rates applicable to Lake cargo coal may be found in the Coal Division's Exhibit P-159, "Study of Rail Transportation Charges . . . in Market Areas Nos. 1 to 8, inclusive," pp. 49-59.

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storage of the coals on the docks, an important consideration relative to competition with rail-shipped coals, it has historically moved at lower prices than rail-shipped coals, particularly in the domestic sizes." Lake coals, the agency continued, "generally moved at substantially lower prices than rail coals, except, for example, in the case of the slack coals produced in Districts 7 and 8 which moved in the same general price range for all types of movements."⁴⁶

6. OHIO LAKE VESSEL FUEL

Table 48 shows the coordinated minimum prices f.o.b. mine for Ohio coal shipped all-rail to the Great Lakes as vessel fuel. These prices reveal no differences for either size or quality.

TABLE 48
Coordinated Minimum Prices for Ohio Vessel Fuel Shipped by Rail
to Great Lakes Ports, 1940
(dollars per net ton, f.o.b. mine)

<i>Freight-Origin District</i>	<i>Toledo and Sandusky</i>	<i>Huron</i>	<i>Lorain and Cleveland</i>	<i>Fairport</i>	<i>Ashtabula, Erie, and Buffalo</i>
Ohio No. 8 and Cambridge	2.10	2.10	2.10	2.10	2.10
Hocking, Pomeroy, and Jackson	2.10	2.10	2.10		
Crooksville	2.20	2.10	2.10		
Middle, Leetonia, and Ohio-Middle	2.20	2.20	2.30	2.20	2.10

Source: *Federal Register*, August 24, 1940, p. 3072.

Here, as was true of the coal shipped to the lakes as general cargo, the coals of Middle and Leetonia were priced generally higher than the coals of the other freight-origin districts. Here, too, the basic reason was the same—the offsetting of freight rate differences so as to achieve a degree of equality in the lakeside prices.

The pricing of lake vessel fuel presented a problem about which the price fixers differed sharply. On the one hand, the Coal Division recommended that lake vessel fuel be priced in a manner analogous to the pricing of lake cargo railroad fuel (Chart 12). It envisaged the pricing of lake vessel fuel from Districts 2, 3, and 8 at \$4.70 at lake fueling ports, and the inferior coals of Districts 4 and 6, at \$4.60, a \$.10 differen-

⁴⁶ "Statement of Considerations Involved in the Issuance of Maximum Price Regulation No. 120, Office of Price Administration," mimeographed copy published by the National Coal Association, pp. 9-10.

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tial. Apparently it also sought differing f.o.b. mine prices to the various ports so that the delivered prices would be the same as between ports.

The Board of District 4, on the other hand, recommended that the delivered prices be related at the same differentials as those recommended for coal shipped to the lakes as general cargo (Chart 13). For example, the Board wanted a \$.50 differential between the District 8 coal and the inferior District 4 coals. Also, it desired the f.o.b. mine prices to be substantially uniform between ports, resulting in some variations between certain ports in the delivered prices.

The Trial Examiners recommended the adoption of the District Board's proposal on the grounds that the larger delivered differentials had prevailed in the past and that to reduce them would seriously impair the competitive position of District 4's vessel fuel, and that the record amply supported the argument for uniformity in f.o.b. mine prices between fueling ports.

District 4's lake vessel fuel schedule (Table 48), like those of all other districts, exhibits no differentiation of prices on the basis of size. The Trial Examiners said that:

"Generally speaking, the size used for bunkering at the lakes is egg coal. Size, as such, has in the past had no recognized value for lake bunkering purposes and purchases have generally been made on the basis of the egg sizes. The practice has been in assembling a cargo of coal for lake movement that certain odd sizes would be available for vessel fuel purposes and most generally the vessel bunkered would take any available size, which generally has been the egg size. Consequently, no price differential because of sizes should be provided, the prices being properly predicated entirely upon the egg sizes. Occasionally slack coals will be used for lake bunkering. They should take the same price as the egg coal."⁴⁷

The coordination of lake vessel fuel prices therefore consisted essentially of applying the price for a typical industrial egg size, such as 2" × 5", to all sizes of the same coal moving into the lake region. This was done in such a way that the prices of the various coals at fueling ports would be coordinated at the differentials recommended by the Trial Examiners. The relationships between the lake vessel fuel prices f.o.b. mine and the all-rail 2" × 5" egg coals moving to Market Area 13 are shown in Table 49. This explanation does not tell the entire story, for

⁴⁷ Report . . . of Trial Examiners, p. W-175.

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there are some minor deviations and exceptions, but it should be sufficient to illustrate the general method that was employed.

TABLE 49
Price Relationships of Lake Vessel Fuel, 1940
(dollars per net ton, f.o.b. mine)

<i>Producing District</i>	<i>Price of Vessel Fuel (Coal of Any Size)</i>	<i>Relationship to 2" × 5" Industrial Egg</i>								
1 Eastern Pennsylvania	2.35, any grade, to all lake ports	This price equaled the price of this district's grade C 2" × 5" egg coal that was shipped as lake cargo coal. The delivered price of the vessel fuel would preserve existing competitive opportunities.								
2 Western Pennsylvania	2.40, any grade, to all lake ports	This was the same as the district's grade A 2" × 5" industrial egg that was shipped all-rail to Market Area 13.								
3 Northern West Virginia	2.05, any grade except A, to all lake ports 2.23, grade A, to lower lake ports	These prices were related to those of 2" × 5" industrial egg which moved by rail to Market Area 13, thus: <p style="text-align: center;">D, 2.15; E, 2.10; F, 2.05</p>								
4 Ohio	2.10, Ohio No. 8 coal, to all lower lake ports. There were several other prices as required for intradistrict coordination	This price equaled the price of grade O, Ohio No. 8, 2" × 5" industrial egg shipped by railroad to Market Area 13. The Trial Examiners remarked that this price would give a delivered price at Toledo and Sandusky that was .50 below the delivered price of District 8's coal.								
6 Panhandle (West Virginia)	2.10, any grade, to all lake ports	This price was a little above the 2.00 mine price of 2" × 5" industrial egg that was shipped all-rail to Market Area 13. It equaled the price of District 4's Ohio No. 8 coal.								
7 Southern Numbered 1 High-Vol.	2.05, grades A and B; 1.95, other grades, to all lake ports	Prices for 2" × 5" high-volatile industrial egg moving all-rail from these districts to Market Area 13 were:								
8 Southern Numbered 2 High-Vol.	2.20, grades A and B; 2.10, other grades, to all lake ports	<table style="width: 100%; border: none;"> <tr> <td style="width: 50%;">A—2.25</td> <td style="width: 50%;">E—2.05</td> </tr> <tr> <td>B—2.20</td> <td>F—2.00</td> </tr> <tr> <td>C—2.15</td> <td>G—1.95</td> </tr> <tr> <td>D—2.10</td> <td>H—1.90</td> </tr> </table>	A—2.25	E—2.05	B—2.20	F—2.00	C—2.15	G—1.95	D—2.10	H—1.90
A—2.25	E—2.05									
B—2.20	F—2.00									
C—2.15	G—1.95									
D—2.10	H—1.90									

Source: *Report, Proposed Findings of Fact, Conclusions and Recommendations of Trial Examiners*, as revised (General Docket No. 15), Bituminous Coal Division, April 1940, pp. W-175—97-A.

Although vessel fuel was not priced on a basis of size, it was used in all sizes. A comparison of the prices in Table 48 with those in Figure 6 shows that vessel fuel was priced well below

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the old uncoordinated prices in the lump sizes (size groups 1, 2, 3, and 4). Vessel fuel (Table 48) was priced higher than lake cargo coal f.o.b. mine (Table 45).⁴⁸

7. RIVER SHIPMENTS

Among the Ohio price schedules is one entitled "Prices for River Shipments from Mines having River Loading Facilities."⁴⁹ This elaborate table, showing prices for coals loaded on the Muskingum and Ohio Rivers for shipment to five stretches of the Ohio River, is largely an empty frame. It was first constructed for the coordination of river coals originating across the Ohio River in District 6 (Panhandle West Virginia) which shipped a considerable tonnage of river coal. In District 4, however, there were in 1937 only three mines shipping coal by river. The prices that were applicable to those mines are shown in Table 50.

Inspection of the three columns on the right-hand side of Table 50 shows that river coal shipped by Mine No. 124 was priced the same as its all-rail coal and 35 cents below the old uncoordinated price. Mine No. 160, the largest shipper, had a

⁴⁸ The foregoing discussion of lake vessel fuel, and Table 49 are based on *Report . . . of Trial Examiners*, pp. W-175—W-197, and the *Federal Register*, August 24, 1940, *passim*. The tonnages of vessel fuel shipped in 1937, as reported in Exhibits P-788 and P-785 ("Lake Realization Adjustments to Reflect Deliveries East and West of Port Maitland Line, 1937," and "Distribution of Shipments of 'Unpriced' Coal to All Market Areas, Lakes, and Tidewater, including Railroad Fuel," Bituminous Coal Division), are as follows:

Producing District	Priced Coal (net tons)		Unpriced Coal (net tons)	
	Lake Erie	Lake Ontario	Lake Erie	Lake Ontario
1	22,344	4,688	101	
2	297,873	7,928	1,539	104
3	135,236	13,590	54	
4	466,990		27,746	
5				
6	9,221	55		
7 Low-Volatile	12,683			
7 High-Volatile	1,179			
8 Low-Volatile				
8 High-Volatile	337,410		30,278	
Districts 1-8	1,282,936	26,261	59,718	104

Unpriced coal includes tonnages of non-code members, tonnages of mines active in 1937, but since closed down or out of business, etc.

⁴⁹ *Federal Register*, August 24, 1940, p. 3072.

TABLE 50
Minimum Prices and Related Data for Coal Shipped by River from Ohio Mines
Having River Loading Facilities

Sub-District	Freight- Origin District	Mine Numbers ^a	Tonnage ^a	District 4 River Coal Sold in 1937			Prices		
				Market Area and Rivers ^a	Letter Grade ^b	Size Groups	River Scheduled ^d (dollars per net ton, f.o.b. mine)	Uncoordi- nated ^e	Coordinated All-Rail ^f
1	Ohio No. 8	124	2,171	13 Ohio	O	3	2.10	2.45	2.10
6	Crooksville	160	548,659 ^g	14 Muskingum	O	6	1.95	2.20	1.95
8	Pomeroy	105	1,534	19 Ohio	O	6	2.36	2.20	1.95

^a "River Shipments of Bituminous Coal Exclusive of Railroad Fuel, for Calendar Year 1937, Interim Summary—River Coal: Distribution and Realization, District Nos. 1-15." Exhibit P-782, Bituminous Coal Division, 1939.

^b From list of mines, giving grade of coal in each size group in *Federal Register*, August 24, 1940, p. 30665.
^c From Exhibit No. P-782. The size group numbers used there have been translated to the system used in *Federal Register*, August 24, 1940, pp. 3059-61.

^d *Federal Register*, August 24, 1940, p. 3072. These prices became effective October 1, 1940.
^e From Table 39.

^f *Federal Register*, August 24, 1940, pp. 3066, 3067, and 3069. These prices became effective October 1, 1940.
^g Does not include 63,147 tons of "unpriced coal" shipped by river from District 2 to Market Area 14. Unpriced coal includes tonnages of non-Code members, tonnages of mines active in 1937 but since closed down or out of business, etc.

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river price which was the same as its all-rail price and 25 cents below the original uncoordinated price. Mine No. 105, however, had a river price of \$2.36, which was 41 cents above the corresponding all-rail price and 16 cents above the uncoordinated price.

The incomplete description of the coordination of river coal prices in the Trial Examiners' *Report* prevents the construction of a coordination chart for the coals shipped on the Muskingum and Ohio Rivers. The general theory upon which such coordination was based, as stated by the Trial Examiners, "was to use substantially the same minimum f.o.b. mine prices as for all-rail movement from the same district to important market areas served by such river coal. Accordingly, at those river destinations and plants where the difference between water transportation charges and all-rail or truck transportation charges have clearly been sufficiently great to confer definite competitive advantages upon river coal, the same competitive advantage will continue. That is to say, river coal sold at the minimum price will be delivered at substantially less than all-rail or truck coal to such a destination or plant just as in the past."⁵⁰

It will be noted that the coals from two of Ohio's three mines shipping river coal were priced the same as their all-rail coals of the same size for movement into their respective Market Areas, 13 and 14. The reason for the deviation in the case of Mine Number 105 was not disclosed by the Trial Examiners.

The delivered prices, therefore, probably were lower than the corresponding all-rail prices. If the river transportation charges were below the rail rates by a uniform amount, say 20 cents, then the delivered price differentials for river coals would correspond to the delivered price differentials of all-rail coals. The Trial Examiners observed that the recommended prices for District 4's river coal would permit it to be shipped "on substantially the same delivered price relationship to District 2, 3, and 6 as the relationship for all-rail movement in competitive markets for coals of said districts."⁵¹

River vessel fuel had been assigned f.o.b. mine prices corresponding to regular river coal and this, said the Trial Examiners, appeared to be reasonable and proper.⁵²

8. TRUCK SHIPMENTS

Data on truck shipments were not compiled separately but com-

⁵⁰ *Report . . . of Trial Examiners*, pp. W-212—W-213.

⁵¹ *Ibid.*, p. W-228. ⁵² *Ibid.*, p. W-254.

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bined with local sales of coal at the mine. Ohio's coal transported by truck and sold locally in 1937 totaled 2,427,945 tons, an amount greatly outranked by all-rail shipments and railroad fuel (see Table 38). In fact, truck shipments and local sales accounted for only 11 per cent of all Ohio coal produced by code members in 1937.

The price-fixing agencies made no attempt to coordinate the delivered prices of truck coal. This decision was based upon the following considerations: (1) the general practice of the industry not to record destinations of shipments of coal by truck and (2) the fact that the cost of truck transportation from adjoining mines to a single destination unlike that of all-rail shipments, was not necessarily identical, because each mine did its own trucking or sold its coal to itinerant truckers.

Table 51 shows the minimum prices for truck coal as recommended by the Trial Examiners. Although complete data were not available, it seemed better to present an analytical table than to reproduce the table as published, for the latter table does not designate the grades of coal and the reader cannot readily determine whether a given price difference is due to a quality difference or to other factors.

Three characteristics of this table should be noted. First, there was no breakdown of prices by market areas because information about truck destinations was not available. Thus the f.o.b. mine price for a particular truck coal was the same regardless of its destination. As a matter of fact, however, the distribution of truck coal occurs within a shorter radius than that of all-rail coal, so that some of the more remote market areas are of no practical interest to these producers.

Secondly, the price schedule for truck coal used a source-area system different from that used in other schedules. Freight-origin districts are based on minor freight peculiarities, but since freight rates do not apply to truck shipments the Division used instead the eight subdistricts of Ohio. Because Subdistrict 4 was too extensive for the purpose of pricing truck coal, it was subdivided into three sections. The first section included eight counties and part of a ninth and embraced most of the subdistrict. East of this section and touching Pennsylvania are Trumbull, Mahoning, and Columbiana Counties which constituted the second section. The third section consisted of Coshocton County which formed the southwestern corner of Subdistrict 4 and bordered on Subdistrict 6.

The third notable characteristic has to do with the size groups.

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A comparison of the truck coal price schedule with those presented for all-rail coal, railroad fuel, and lake and river coal shows that the size groups used for truck coal deviated from the common pattern. Between some sizes of coal there exist price relationships

TABLE 51

Coordinated Minimum Prices for Ohio Truck Coal, Effective October 1, 1940
(dollars per net ton, f.o.b. mine)

Producing Sub-district ^a	County	Grade	Size Groups for Truck Coal ^b								
			1	2	3	4	5	6	7	8	
1, 2, and 3	All	*	3.40	3.30	3.15	2.90	2.85	2.75			
		O								2.35	2.25
		*	2.85	2.75	2.60	2.35	2.30	2.20	2.20	2.00	1.90
4	Nine Counties ^c	Q	2.75	2.65	2.50	2.25	2.20	2.10	2.10	1.90	1.80
		R	2.70	2.60	2.45	2.20					
4	Trumbull, Mahoning, and Columbiana	*	3.65	3.55	3.40	3.15	3.10				
		*						2.90			
		Q	3.00	2.90	2.75	2.50	2.45	2.35	2.05	2.50	2.40
4	Coshocton	O	2.90	2.80	2.70	2.45	2.40	1.95			
		Q	2.80	2.70	2.60	2.35	2.30	1.85	1.65	1.55	
5, 6, 7, and 8	All	*	2.95	2.85	2.75	2.50	2.45				
		O	2.80	2.70	2.60	2.35	2.30	1.95	1.75	1.65	
		Q	2.70	2.60	2.50	2.25	2.20	1.85	1.65 ^d	1.55 ^d	

^a For names of subdistricts and their boundaries see Table 34.

^b Size groups here numbered 3, 4, 5, and 6 are not directly comparable to size groups so numbered in other schedules.

^c Carroll, Holmes, Medina, Portage, Stark, Summit, Tuscarawas, and Wayne Counties and part of Harrison County.

^d Subdistrict 8, however, took a price of 1.40 in this size group.

Source: The main source of this compilation was the truck price table in the *Federal Register*, August 24, 1940, pp. 3073-88. Two tables of mines and qualities were available for analytical purposes. One, in the same issue (pp. 3062-63) applied only to those truck mines that had rail connections. The other, published in *ibid.*, January 11, 1939, pp. 138-47, covered all the truck mines then operating, but there may have been some changes made in quality designations between 1939 and 1940. Finally, a limited check was afforded by facts stated in the text of the *Report, Proposed Findings of Fact, Conclusions and Recommendations of Trial Examiners*, as revised (General Docket No. 15), Bituminous Coal Division, April 1940, pp. T-76 and T-107.

* Grade not clearly stated in the sources.

peculiar to the truck coal business, and so the Trial Examiners recommended that those sizes should be rearranged into new groupings. In consequence size groups 3, 4, 5, and 6 for truck coals are unique and should not be compared with the same size groups for other types of coal. On the other hand, size groups 1, 2, 7, and

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8 were not disturbed and for them a direct comparison between the truck and nontruck price schedules is permissible.

Because the truck coals and the rail coals of Ohio competed with each other, the coordinated minimum prices of the former were related to the price structure of the latter. The two types of coal could not be coordinated on a delivered price basis because the delivered prices of truck coals were not readily determinable.⁵³ Instead, the Coal Division proposed that the f.o.b. mine prices of truck coals be "related to the coordinated prices for District 4 rail coals moving into the home market. . . . The coordinated prices for truck coals are, roughly, in the smaller sizes equal to, and in the prepared sizes from 15¢ to 25¢ higher than, the coordinated prices for rail coals moving into the home market. These general f.o.b. mine price relationships between rail and truck coals are customary, and no producer of either rail or truck coals in District 4 specifically protested the difference in these relationships between the smaller and the prepared sizes."⁵⁴

It will be recalled that the truck coal price schedule for District 4 shown in Table 51 consisted of four sections. Coals from Subdistricts 1, 2, 3, and most of 4 were shipped by truck principally into Market Area 13, one of the "home markets" of Ohio. It was recommended, therefore, that the prices of these coals should be related to the prices of the rail coals of Ohio's Middle Freight-Origin District moving into Market Area 13.

The truck coals of Subdistrict 4's Trumbull, Mahoning, and Columbiana Counties moved primarily into Market Area 11, where they competed with the rail coals of Ohio's Leetonia Freight-Origin District. It was recommended that the prices of the former should be related to the prices of the latter.

The truck coals of Subdistrict 4's Coshocton County moved south into Market Area 14 where they competed with the truck coals of Subdistrict 6. In the larger sizes there was a price differential, but in the smaller sizes the prices of Coshocton's truck coal and Subdistrict 6's truck coal were identical.

⁵³ Imagine the fantastic f.o.b. mine price schedules for truck coal that would flourish under the formula proposed by one Ohio truck coal operator. He suggested "the establishment of an f.o.b. mine price, which, when added to the lowest published rail rate from point of origin to destination, would yield the delivered price at which coordination is effected, provided that this f.o.b. mine price may be reduced, or increased, by the exact amount by which the actual cost of truck transportation is respectively greater than, or less than, the rail rate." (*Ibid.*, p. T-81.)

⁵⁴ *Ibid.*, pp. T-79 and T-80.

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Subdistricts 5, 6, 7, and 8 sold their truck coal mostly in Market Areas 14 and 17. Their coals were related, said the Trial Examiners, to the rail-coal prices of Hocking coal moving into those market areas. This was true of sizes other than slack, for there was no price difference between the two market areas. In the slack sizes, however, rail coals destined for Market Area 17 were priced above those going to Market Area 14 and in this case the truck coal price was equated with the prices of the rail coal moving to Market Area 17.⁵⁵

Table 52 shows that in all four sections of the truck price schedule, the prices of the slack sizes, except in Subdistrict 8, were the same as those of the slack sizes of the all-rail schedule. The larger sizes shown in this table were priced at or above the prices of the corresponding all-rail coals. In one case there was a spread as great as \$.60—a spread considerably larger than the \$.25 mentioned above in the quotation from the *Report . . . of Trial Examiners*. Detailed information was not presented to explain why, in the larger sizes, the prices of truck coals exceeded the prices of the all-rail coals. All these relationships between truck and all-rail prices were customary, said the Trial Examiners, and their retention would preserve the existing fair competitive opportunities.

The slack coals, Grade Q, size group 7, of Subdistrict 8 were priced at \$1.40 per ton. This was below the price of comparable coals of Subdistrict 5, 6, and 7 and below the prices of the all-rail coal of Pomeroy. The reason is found in the fact that the slack coal of Subdistrict 8 shipped by truck had customarily sold across the Ohio River in West Virginia in competition with similar slack coal produced there in Mason County. The West Virginia slack coals were priced f.o.b. mine at \$1.55. In order to permit Subdistrict 8's slack coal to absorb the cost of a longer haul and the toll charge on the river bridge, the f.o.b. mine price of the Subdistrict 8 slack coal had to be set \$.15 below the competitor's price, or at \$1.40. The Subdistrict 8 Q slack, size group 8, was also priced at \$1.40 which was only \$.10 under the \$1.50 price of the Mason County equivalent. But the coals in this size group were not truly competitive.⁵⁶

Table 53 shows uncoordinated prices and the differentials for coordinated prices for truck coals. The prices and price differentials are for designated sizes of grade Q. Were the Ohio coordinated

⁵⁵ These four paragraphs are based mainly on the discussion in the *Report . . . of Trial Examiners*, pp. T-91 and T-100.

⁵⁶ *Ibid.*, pp. T-103 and T-104.

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TABLE 52
Coordinated Minimum Prices for Grade Q of Ohio Truck and Rail Coal,
by Size, Effective October 1, 1940
(dollars per net ton, f.o.b. mine)

Item	Truck Size Group		Rail Size Group		4"		2"		5" X 2"		1 1/4" X 2"		2" X 2"		Run-of-Mine		2 1/4" X 0"		9/4" X 0"	
	Lump	Slack	Lump	Slack	Lump	Slack	Lump	Slack	Egg	Lump	Lump	Nut	Slack	Slack	Slack	Slack	Slack	Slack	Slack	
Truck coal of Subdistricts 1, 2, 3, & most of 4	2.75	2.65	2.50	2.25	2.20	2.10	2.10	2.10	2.10	2.10	2.10	2.10	2.10	2.10	2.10	2.10	2.10	2.10	2.10	2.10
All-rail coal:																				
Middle District to Market Area 13	2.55	2.45	2.25	2.25	2.20	2.10	2.10	2.10	2.10	2.10	2.10	2.10	2.10	2.10	2.10	2.10	2.10	2.10	2.10	2.10
Excess of truck coal prices	.20	.20	.25	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Truck coal of Trumbull, Mahoning, & Columbiana	3.00	2.90	2.75	2.50	2.45	2.35	2.35	2.35	2.35	2.35	2.35	2.35	2.35	2.35	2.35	2.35	2.35	2.35	2.35	2.35
All-rail coal, Leetonia District to Market Area 11	2.70	2.60	2.40	2.40	2.35	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25
Excess of truck coal prices	.30	.30	.35	.10	.10	.10	.10	.10	.10	.10	.10	.10	.10	.10	.10	.10	.10	.10	.10	.10
Truck coal of Coshocton County	2.80	2.70	2.60	2.35	2.30	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25
All-rail coal: Hocking District to Market Area 17	2.45	2.35	2.00	2.00	1.95	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85
Excess of truck coal prices	.35	.35	.60	.35	.35	.35	.35	.35	.35	.35	.35	.35	.35	.35	.35	.35	.35	.35	.35	.35
Truck coal of Subdistricts 5, 6, 7, and 8	2.70	2.60	2.50	2.25	2.20	2.15	2.15	2.15	2.15	2.15	2.15	2.15	2.15	2.15	2.15	2.15	2.15	2.15	2.15	2.15
All-rail coal: Hocking District to Market Area 17	2.45	2.35	2.00	2.00	1.95	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85
Excess of truck coal prices	.25	.25	.50	.25	.25	.25	.25	.25	.25	.25	.25	.25	.25	.25	.25	.25	.25	.25	.25	.25

^a Subdistrict 8's coal in this size was priced at 1.40.

Source: The truck coal prices are from Table 51, and the all-rail coal prices are from the *Federal Register*, August 24, 1940, pp. 3066-69.

TABLE 53
 Uncoordinated Prices and Price Differentials for Coordinated Prices Established for Grade Q
 of Ohio Truck Coal, by Size
 (dollars per net ton, f.o.b. mine)

Price Schedule	Size Group for Truck Coal								
	1	2	3	4	5	6	7	8	
6" Lump	2.65	2.55	2.35	2.35	2.25	2.00	2.10	1.65	1.59
6" Lump		4"	2"	5" X 2" Egg	1 1/4" Lump	2" X 2" Lump	Run-of-Mine	2" X 0" Slack	3/4" X 0" Slack
Uncoordinated prices	2.65	2.55	2.35	2.35	2.25	2.00	2.10	1.65	1.59
Truck prices as deviations from uncoordinated prices ^a									
Subdistricts 1, 2, 3, & 4	+ .10	+ .10	+ .15	- .10	- .05	+ .10	.00	+ .25	+ .21
Trumbull, Mahoning, and Columbiana	+ .35	+ .35	+ .40	+ .15	+ .20	+ .35	+ .25	+ .40	+ .36
Coshocton	+ .15	+ .15	+ .25	.00	+ .05	- .15	- .25	.00	- .04
Subdistricts 5, 6, 7, & 8	+ .05	+ .05	+ .15	- .10	- .05	- .15	- .25	.00	- .04

^a Effective October 1, 1940.
 Source: Computed by the authors from Tables 39 and 52.

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prices for truck coals higher or lower than the uncoordinated prices? The former appear to be higher. Whether this is the case, however, cannot be determined inasmuch as the detailed tonnage "weights" for the various sizes and subdistricts concerned are not available.

9. PRICE DIFFERENCES BETWEEN SIZE GROUPS

Our analysis of the coordination of the minimum prices for Ohio has been in the main part in terms of a single size group, namely, $\frac{3}{4}$ " \times 0" coal. It must not be assumed that the relationships that have been shown to exist between the $\frac{3}{4}$ " \times 0" coals which have been sent by the several districts to various market areas were exactly the same as those which were established for other size groups. A study of Table 54, which presents the price spreads or differentials between size groups of the various price schedules considered in this chapter, will not support such an assumption. This table discloses wide variations in the price differentials between size groups. If we take the rail coals of Ohio No. 8 as an example, we find that the 6" lump for shipment to Market Areas 4, 5, and 10 was priced \$.40 above, and the $\frac{3}{4}$ " \times 0" slack \$.25 below, the run-of-mine coal; while the 6" lump to be shipped to Market Areas 7 to 9 inclusive and 11 to 13 inclusive was \$.45 above, and the $\frac{3}{4}$ " \times 0" size \$.30 below, the run-of-mine size. Thus, to the first group of market areas, the differential between these two size groups was \$.65 and to the second group of market areas it was \$.75.

The price differentials between the size groups in the old uncoordinated schedules for Ohio were modified in the coordinated price schedules for all-rail shipments in varying amounts in different market areas and for different freight-origin districts. These modifications "were generally proposed by the Division in order to permit proper coordination of the prices for the coals of District 4 with those for competing coals of other Districts moving into common consuming market areas."⁵⁷ The Trial Examiners' *Report* unfortunately did not give the reasons for differences of this kind. Therefore, we can only point out the extent to which differences between size groups existed.

Table 54 shows the price spreads between size groups in various schedules.⁵⁸ The differentials above or below the base coal taken

⁵⁷ *Ibid.*, pp. 164-65.

⁵⁸ This table was constructed by computing the *differences*, in prices per ton, between the base size groups and the other size groups. The absolute

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from the original uncoordinated schedule are presented in column 4. As pointed out earlier, the coordinated all-rail schedules were derived from the general uncoordinated prices, and the truck price schedules were constructed by relating truck prices to the prices of all-rail coal.

It will be observed that the price spreads in columns 15, 16, 17, and 18 were much narrower than those shown in columns 4 through 14 and that several size groups, particularly in the larger sizes, were bracketed and priced identically. The uncoordinated schedule of railroad fuel prices (column 15) seems to have set, in a rough way, the pattern for these types of fuel.

Finally, it will be observed that columns 20, 21, and 22 more nearly resemble the all-rail coals and truck coals whose price spreads are given in columns 5 through 14 than the prices for the other coals presented in columns 16 through 19.

10. SEASONAL DISCOUNTS

In a few producing districts it has been customary to grant discounts for purchases of bituminous coal during certain "off-season" months of the year. Consequently, these districts sought to obtain special seasonal discounts during the late spring and early summer months. Ohio was one of the districts for which the Trial Examiners recommended a seasonal discount schedule. They pointed out that the large domestic sizes (numbers 1 and 2) of the all-rail coals shipped to Market Area 14 and to market areas west of it had sold at seasonal discounts for a considerable period of time and that these Ohio coals competed in the above market areas with coals from District 7 and District 8 which also have sold at seasonal discounts.

Table 55 presents the seasonal discounts allowed for designated sizes of all-rail coal when shipped to specified market areas by mines operating in Ohio as well as in the Southern Numbered 1 and Southern Numbered 2 producing districts. These seasonal discounts, according to the Trial Examiners, were in accordance with custom and preserved the existing fair competitive opportunities.⁵⁹ The discounts for the large domestic sizes which were allowed to Southern Ohio operators, except certain exempted operations in

values assigned to the bases were not necessarily uniform from market area to market area. Thus the base coal was actually priced at \$1.85 for shipment to Market Areas 4 and 5 but \$1.69 to Market Area 10. But because the *size differentials* were uniform for these three market areas, a single column (No. 5) was constructed to show the spreads.

⁵⁹ Report . . . of Trial Examiners, pp. 548-49 and 343.

TABLE 54

Price Spreads between Ohio Size Groups
(dollars per net ton)

Rail Truck Num- ber	Repre- sentative Size	Price Differentials for All Uncoordinated Schedules except Railroad Fuel	Coordinated All-Rail Price Differential						Coordinated Truck Price Differential to All Market Areas from			
			Ohio No. 8, Cambridge Middle, Leetonia, and Ohio-Middle To Market Areas		Hocking, Crooksville, and Jackson To Market Areas		Pomeroy To Market Areas		Sub- districts Coshocton Subdis- tricts 1, 2, 3, & 4 County in tracts (except Subdis- 5, 6, 7, Coshocton) tract 4 and 8 (12) (13) (14)			
(1)	(2)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
1	6" Lump	+55	+40	+45	+60	+60	+30	+70	+40	+65	+95	+85
2	4" Lump	+45	+30	+35	+50	+50	+20	+60	+30	+55	+85	+75
3	2" Lump	+25	+25	+15	+15	+15	+15	+15	+15	+40	+75	+65
3	5" X 2" Egg	+25	+25	+15	+15	+15	+15	+15	+15	+15	+50	+40
4	1 1/4" Lump	+15	+25	+10	+10	+10	+10	+10	+10	+10	+45	+35
5	2" X 2" Nut	-10	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
6	Run-of-Mine	Base	Base	Base	Base	Base	Base	Base	Base	Base	Base	Base
7	2" X 0" Slack	-45	-15	-20	-20 ^a	-20 ^c	-20	-20	-20	-20 ^e	-20	-20 ^g
8	3/4" X 0" Slack	-51	-25	-30	-30 ^b	-30 ^c	-30	-30 ^d	-30	-30 ^f	-30	-30 ^g

^a Cambridge's price to Market Area 14 was .50 and to Market Area 17 .25 below the base coal.

^b Cambridge's price to Market Area 14 was .50 and to Market Area 17 .35 below the base coal.

^c The Hocking and Crooksville prices for shipments to Market Area 14 were .45 below their base coals.

^d Pomeroy's price to Market Area 17 was .20 below the base coal.

^e Trumbull, Mahoning, and Columbiana counties in Subdistrict 4 were assigned a price which was .30 below their base coals.

^f Trumbull, Mahoning, and Columbiana counties were assigned a price which was .40 below their base coals.

^g In Subdistrict 8 the price was .45 below the base coal.

TABLE 54 (concluded)

Size Group		Uncoordinated Price Differential for Railroad Fuel				Coordinated Price Differential for Railroad Fuel as Lake Cargo			Coordinated Price Differential for Great Lakes Vessel Fuel			Coordinated Price Differential for River Coal					
Rail Number	Representative Size	(1)	(3)	(15)	(16)	Railroad Fuel as Lake Cargo	(17)	(18)	(19)	Subdistrict 1 to All Ohio River Destinations	(20)	Subdistrict 6 to all Muskingum River Destinations	(21)	Subdistrict 8 to All Ohio River Destinations below Syracuse, Ohio	(22)		
1	6" Lump			} +.15	} +.10	} +.10	} +.10	} +.10		+ .45	+ .60	+ .90					
2	4" Lump														+ .35	+ .50	+ .80
3	2" Lump			} +.15	} +.15	} +.05	} +.05	} +.05		+ .15	+ .15	+ .30					
3	5" X 2" Egg														+ .15	+ .15	+ .30
4	1 1/4" Lump														+ .10	+ .10	+ .10
5	2" X 2" Nut			} Base	} Base	} .00	} .00	} .00		.00	.00	.00					
6	Run-of-Mine														Base	Base	Base
7	2" X 0" Slack			} - .40	} - .20	} - .20	} - .20	} - .20		- .20	- .55	- .30					
8	3/4" X 0" Slack														- .30	- .55	- .40

Source: Columns 1, 2, and 3—see Appendix B. Column 4 was derived from Table 39. Columns 5 through 11 were derived from the schedules in the *Federal Register*, August 24, 1940, pp. 3065-70. Columns 12, 13, and 14 were derived from Table 51. Columns 15 and 16 were derived from Table 43. Column 17 was derived from Table 44. Column 18 was derived from Table 45. Column 19 was without price differences due to size. Columns 19 through 22 were derived from *ibid.*, p. 3072.

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TABLE 55
Seasonal Discounts Assigned to All-Rail Coals in Three Producing Districts, Effective October 1, 1940
(dollars per net ton)

Producing District	Description	Market areas	Month of Shipment				
			April	May	June	July	August
4	Ohio For size groups 1 and 2 (all lump coal over 2" and all double-screened coal top size 3" and over and bottom size over 2"). From Eastern Ohio: Ohio No. 8, Cambridge, Crooksville, Middle, Leetonia, Ohio-Middle, Hocking (mines 18, 88, and 141), and Jackson (mines 58, 72, 133, and 142). From Southern Ohio: Hocking (except mines 18, 83, and 141), Jackson (except mines 58, 72, 133, and 142), and Pomeroy.	All market areas except 1 to 13 inclusive and except 98 and 99	.30	.20	.10		
7	Southern Num-bered 1 Low-Volatile, large sizes ^a High-Volatile, large sizes ^b	All market areas except 98, 99, and Tidewater	.50	.40	.30	.20	.10
8	Southern Num-bered 2 Low-Volatile, large sizes ^a High-Volatile, large sizes ^b	All market areas except 98, 99, and Tidewater ^c	.50	.40	.30	.20	.10

^a All lump coal, all egg coal whose top size was over 3", and all egg coal whose top size was over 1 1/4" but not over 3" and whose bottom size was smaller than 3". It should be noted that smaller discounts (not shown here) were allowable for smaller size groups.

^b All Lump coal over 3". It should be noted that smaller discounts (not shown here) were allowed for smaller size groups.

^c Also excluded were shipments to Market Areas 1, 2, and 3 from Freight-Origin Groups 120, 121, 126, and 240. Source: *Federal Register*, August 24, 1940, pp. 3059, 3103, 3118, and 3119.

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the Hocking and Jackson fields, were identical with the discounts on roughly comparable sizes shipped from Districts 7 and 8. No explanation was offered by the Trial Examiners for the smaller discounts allowed the Eastern Ohio coals; presumably they were customary.

No discounts were permitted on the smaller sizes of Ohio's coals. Districts 7 and 8, however, were granted lower discounts for their smaller sizes. These seasonal price differentials for the small sizes (not shown in Table 55) when delivered in April, ranged from \$.40 for the high-volatile lump sizes to \$.15 for high-volatile nut coals. In these two districts, low-volatile coal shipped in April was discounted \$.50 in the large sizes and \$.25 in the small nut and screened run-of-mine sizes.

C. Coordination Problems Not Found in Ohio

Four additional pricing problems will now be considered. They involve:

- Tidewater coal
- Ex-river coal
- Coal for use in coke ovens and gas plants
- Coal for domestic and industrial uses

The discussion of these pricing problems shifts the setting for our analysis to regions outside of Ohio.

1. PRICING OF TIDEWATER COALS

About 30 million tons of bituminous coal, intended for various uses, was moved to tidewater in 1937.⁶⁰

Use	Production	
	(net tons)	(per cent)
Coal for general use	20,104,716	67.2
Tidewater vessel bunker coal	1,842,145	6.2
Coal for production of by-product coke	7,400,938	24.7
Railroad fuel	578,117	1.9
Total	29,925,916	100.0

The first two classes will be treated in this section. Coal for the production of by-product coke will be discussed in a later section. The coordination of railroad fuel has been considered above.⁶¹

⁶⁰ *Ibid.*, p. W-8, tonnages as revised.

⁶¹ The total volume of tidewater railroad fuel shipped in 1937 was little more than a half-million tons of which 78 per cent came from District 8. Only two districts, Nos. 7 and 8, established prices for such coal. The Trial Examiners recommended a price of \$1.72 f.o.b. mine on District 8's high-

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a. *Tidewater coal for general use.* In 1937 only five producing districts shipped tidewater coal for general use.⁶² Of the total shipments, Districts 1 and 7 accounted for 92 per cent.

<i>Producing District</i>	<i>Shipments</i>	
	<i>(net tons)</i>	<i>(per cent)</i>
1 Eastern Pennsylvania	7,655,380	38.1
2 Western Pennsylvania	84,262	.4
3 Northern West Virginia	451,996	2.2
7 Southern Numbered 1	10,748,873	53.5
8 Southern Numbered 2	1,164,205	5.8
Total	20,104,716	100.0

The boards in all five districts made provision for tidewater shipments in their proposed minimum price schedules.⁶³ Districts 1, 2, and 3 assigned to their ¾" × 0" slack coal moving on tidewater f.o.b. mine prices applicable to their all-rail coal moving to the seaboard Market Areas 1 and 2. Districts 7 and 8, on the other hand, proposed prices for this size which in all but one instance differed from the all-rail prices. Table 56 shows for these five districts their tidewater prices for ¾" × 0" slack, the size selected for our discussion of this phase of price coordination. Price relationships will be considered by receiving ports in the important tidewater centers.

b. *New England.* Broadly speaking, there are two ways of moving bituminous coal from the Appalachian Mountains to New England: one is to haul it by rail all the way, and the other is to haul it to the seacoast, move it by vessel to New England ports, and finally haul it to the consumer by rail or truck. The choice of route depends in part upon the area in New England to which the coal is to be shipped and in part upon the producing field from which the coal is to be sent.

One stream of coal moved by rail from the northern Appalachian districts to the western part of New England. Another stream flowed from Districts 7 and 8 to Hampton Roads and thence by

volatile tidewater railroad fuel (all sizes) as one that would preserve the existing fair competitive opportunities. District 7, because of its \$.09 freight rate advantage, was given an f.o.b. mine price of \$1.81 on its comparable high-volatile tidewater railroad fuel. District 7's low-volatile tidewater railroad fuel was priced \$2.05 f.o.b. mine, which was the same price as the railroad fuel of its competitor in New England, District 1. (See *Report . . . of Trial Examiners*, pp. U-84—U-86 and U-111—U-114.)

⁶² *Report . . . of Trial Examiners*, p. W-8, tonnages as revised.

⁶³ Panhandle West Virginia, District 6, also provided for tidewater prices. This district, however, made no tidewater shipments in 1937.

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TABLE 56
 Minimum Prices for 3/4" X 0" Slack Shipped All-Rail to Market Areas 1 and 2
 and to Tidewater, Effective October 1, 1940
 (dollars per net ton, f.o.b. mine)

Type of Shipment and Destination	District 1		District 2 Grade C	District 3 Grade D	Districts 7 and 8 Grade C	
	Grade C	Grade E			Low-volatile	High-volatile
All-Rail to Market Areas 1 and 2	2.15	2.05	1.78	1.78	1.80	1.70
To tidewater receiving ports in: Chesapeake and Delaware Bays	2.15	2.05	1.78	1.78	1.80	1.80
New York Harbor and environs	2.15	2.05	1.78	1.78	1.77	1.80
New England (east of Port Chester, N.Y.)	2.15	2.05	1.78	1.78	1.66	1.57

Source: *Federal Register*, August 24, 1940; p. 2978 (District 1), p. 3018 (District 2), p. 3048 (District 3), pp. 3107-9 and 3111-12 (District 7), and pp. 3129, 3132, and 3136 (District 8).

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sea to southern and eastern New England. Where these two streams met, they produced an irregular ripple that extended from New Haven to Mount Washington. This "ripple" formed the basis for the boundary that was drawn between Market Area 1 (to the east) and Market Area 2 (to the west).

The essential problem in coordinating the tidewater prices in New England was to find such prices as would preserve the existing fair competitive opportunities, that is, the existing flows. The producers of Districts 1 and 7 examined their past experience and asserted (see Table 57) that the desired results would be achieved

TABLE 57
 Prices of Grade C, ¾" × 0" Slack in Massachusetts—
 All-Rail and Tidewater, Effective October 1, 1940
 (dollars per net ton)

<i>Description</i>	<i>Market Area 2</i>			<i>Market Area 1</i>	
	<i>North Adams</i>	<i>Springfield</i>	<i>Worcester</i>	<i>Framingham</i>	<i>Boston</i>
All-rail from District 1:					
F.o.b. mine price	2.15	2.15	2.15	2.15	2.15
Freight rate	3.62	3.73	3.85	4.07	3.87
Destination price	5.77	5.88	6.00	6.22	6.02
Tidewater from District 7, low-volatile:					
F.o.b. mine price	1.66	1.66	1.66	1.66	1.66
Freight rate to Hampton Roads	2.35	2.35	2.35	2.35	2.35
Vessel rate	.84 ^a	.84 ^a	.84 ^a	.84 ^a	.84 ^a
Handling at Boston docks	.35 ^a	.35 ^a	.35 ^a	.35 ^a	.35 ^a
Freight out of Boston	1.64	1.39	1.165	.94	.49 ^b
Destination price	6.84	6.59	6.365	6.14	5.69

^a Rate assumed by the Trial Examiners for illustration, but based to some extent on ascertained rates.

^b Switching charge in Boston was 22.00 per car plus .055 per gross ton. Assuming a car of 50 net tons capacity, the total switching charge would be .49 per net ton.

Source: f.o.b. mine prices were taken from Table 56. Freight rates and switching charge were obtained from the Coal Division's Exhibit No. P-159 entitled "Study of Rail Transportation Charges Applying from Origin Freight Rate Groups to Destinations in Market Areas Nos. 1 to 8, inclusive," pp. 11, 30, 34, 40, 44, and 47. Where necessary, rates and charges have been converted to net tons.

by assigning to District 7's low-volatile tidewater coal for shipment to New England an f.o.b. mine price 49 cents below the f.o.b. mine price of the comparable coal of District 1. The Trial Examiners approved this differential.

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It is difficult to say whether the relationship proposed between the two f.o.b. mine prices really preserved the existing competitive opportunities. Table 57 brings together some pertinent data. In the upper section of this table are shown the f.o.b. mine price, the freight rate, and the destination price of District 1's Grade C, $\frac{3}{4}$ " \times 0" slack to five Massachusetts destinations. In general, the delivered price rises as the coal moves to more easterly destinations.

In the lower section of the table we have added to the f.o.b. mine price of District 7's low-volatile, Grade C, $\frac{3}{4}$ " \times 0" slack all the transportation charges that would be incurred on the tidewater route. The freight rate to Hampton Roads and the freight rates from the Boston docks to the five destinations were published rates.⁶⁴ The costs of sea transportation and dockage were less definite and at best were approximate. The vessel rate was described by the Trial Examiners as "reasonable" and "illustrative" and the handling cost was a published charge of one of the New England docks which the Trial Examiners said was "a reasonable charge to use for illustrative purposes."⁶⁵ These delivered prices rose as the coal moved westward from Boston.

If the delivered all-rail prices of District 1 and the delivered tidewater prices of District 7 were charted, the two curves would intersect somewhere between Worcester and Framingham. The consequence of this situation is obvious: under normal shipping conditions, no coal consumer in Springfield would buy tidewater coal, and no Boston consumer would buy all-rail coal. Somewhere in between, a consumer could buy either coal at a single price. The locations at which either coal could be purchased did not form a thin line; rather they formed a fairly broad zone in which both coals competed. This situation grew out of the fact that transportation costs were not uniform for all dealers: some dealers possessed docks of their own, others did not; some owned vessels, others did not; some hauled coal from the docks by rail, others hauled by truck, and so on.

Up to this point the discussion of the pricing of tidewater coals has been confined to shipments from Districts 1 and 7. What about the price of coal that moved to New England from District 8? For a given size and grade, the low-volatile coals of District 7 and the high-volatile coals of District 8 should carry the same delivered

⁶⁴ Except where the coal was moved from dock to destination by truck, in which case the transportation charge was unknown.

⁶⁵ *Report . . . of Trial Examiners*, p. W-30, note 12, and p. W-23.

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price.⁶⁶ In other words, District 8's high-volatile, Grade C, $\frac{3}{4}$ " \times 0" slack moving by tidewater to the five Massachusetts cities would take the same delivered prices as those shown at the bottom of Table 57. The freight rate to Hampton Roads between most sections of District 8 and the port, however, was not \$2.35 as from District 7, but \$2.44. To equate the delivered prices of these coals, it was necessary to adjust the f.o.b. mine price for District 8. Because District 8 had a \$.09 disadvantage on its freight rate, it was given a \$.09 advantage on its mine price. The mine price accordingly was set at \$1.57 instead of \$1.66, as may be seen in the right-hand column of Table 56.⁶⁷

A small volume of coal also flowed to New England from Districts 1, 2, and 3 by tidewater through New York, Philadelphia, and Baltimore. The tidewater coals from these areas competed not only with each other, but with all-rail coal from Districts 2 and 3. What relationships prevailed between the delivered prices of these competing coals? In the case of all-rail movements to Market Areas 1 and 2, the C coal from District 2 and the D coal from District 3 delivered at the same prices. The E coal from District 1, however, delivered at prices \$.05 above the other rail coals, because of its superior Btu content.⁶⁸ The same relationships prevailed among the prices of tidewater shipments, but the delivered prices for these shipments are not identical with those for all-rail shipments.

c. *New York Harbor.* Coal entering the New York market by tidewater came either from Districts 1, 2, and 3 by rail to the New York upper or lower piers and thence by barge to its destinations, or from District 7 by rail to Hampton Roads and then to its destinations by vessel. Districts 1 and 7 supplied the largest tonnages. The producers in these two districts agreed upon a price differential of \$.38 a ton in favor of District 7. This differential, it was believed, would preserve existing fair competitive opportunities.⁶⁹ The Division accepted the recommendations of the interested parties. The price structure for $\frac{3}{4}$ " \times 0" slack coal for Districts 1, 2, 3, and 7 is shown in Table 58.

⁶⁶ This relationship was established for all-rail coal moving into Virginia (Market Area 100), a market near the two districts. (See *Report . . . of Trial Examiners*, pp. 1017-21.)

⁶⁷ The relationship between the other coals of Districts 7 and 8, all-rail to Market Area 100, was also approved for tidewater shipments to New England. To wit: The high-volatile coal of District 7 was given the same f.o.b. mine price as the high-volatile coal of District 8. Similarly the low-volatile coal of District 8 was given the same f.o.b. mine price as the low-volatile coal of District 7.

⁶⁸ *Report . . . of Trial Examiners*, pp. 306-10.

⁶⁹ *Ibid.*, p. W-44.

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TABLE 58

Coordination of Prices for $\frac{3}{4}$ " \times 0" Slack Shipped to New York Harbor,
Effective October 1, 1940
(dollars per net ton)

Price Components	District 1 Grade		District 2 Grade C	District 3 Grade D	District 7 Low-vol. Grade C
	C	E			
F.o.b. mine	2.15	2.05	1.78	1.78	1.77
Freight	2.53 ^a	2.53 ^a	2.75 ^a	2.75 ^a	2.35 ^b
Vessel	.17	.17	.17	.17	.73
Delivered price	4.85	4.75	4.70	4.70	4.85

^a To upper piers New York Harbor.

^b Via Hampton Roads.

Source: *Report, Proposed Findings of Fact, Conclusions and Recommendations of Trial Examiners*, as revised (General Docket No. 15), Bituminous Coal Division, April 1940, p. W-49-D.

District 8 moved little steam coal to the New York market. Its price for tidewater shipments was set at \$1.80 for high-volatile $\frac{3}{4}$ " \times 0" grade C slack—the f.o.b. mine price for this coal when shipped all-rail to its home market area, No. 101.

d. *Chesapeake and Delaware Bays*. The competitive situation was similar to that in New York. Coal moving by rail from Districts 1, 2, and 3 to the waterfront was delivered by barge. The coal from District 7, on the other hand, was shipped to Hampton Roads, and then went by vessel to its destination. Prices at the port of Philadelphia and their component charges are shown in Table 59

TABLE 59

Coordination of Prices for $\frac{3}{4}$ " \times 0" Slack Shipped to Philadelphia,
Effective October 1, 1940
(dollars per net ton)

Price Components	District 1 Grade		District 2 Grade C	District 3 Grade D	District 7 Low-vol. Grade C
	C	E			
F.o.b. mine	2.15	2.05	1.78	1.78	1.80
Freight	2.29	2.29	2.52	2.52	2.35 ^a
Vessel	.18	.18	.18	.18	.47
Delivered price	4.62	4.52	4.48	4.48	4.62

^a Via Hampton Roads.

Source: *Report, Proposed Findings of Fact, Conclusions and Recommendations of Trial Examiners*, as revised (General Docket No. 15), Bituminous Coal Division, April 1940, p. W-49-E.

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for tidewater shipments of $\frac{3}{4}$ " \times 0" slack from the important competing districts.

Here, as at New York Harbor, the shipments of steam coal from District 8 were negligible. The price assigned to this coal is that established for District 8's all-rail coal in its home market.

e. *Tidewater coal for vessel bunkers.* In 1937 eight districts shipped coal to tidewater for use as steamship fuel.⁷⁰

Producing District	Shipments	
	(net tons)	(per cent)
1 Eastern Pennsylvania	672,181	36.5
2 Western Pennsylvania	1,698	.1
3 Northern West Virginia	49,911	2.7
7 Southern Numbered 1	668,299	36.3
8 Southern Numbered 2	109,582	5.9
9 West Kentucky	1,225	.1
13 Southeastern	338,749	18.4
15 Southwestern	500	0
Total	1,842,145	100.0

Three of the districts shipped 91 per cent of the tidewater coal that was consumed in vessels in 1937. Two of them, Districts 1 and 7, contributed equal amounts that totaled 73 per cent.

Most of the vessel bunker coal shipped by Districts 1, 2, 3, 7, and 8 was delivered on the coast between New York Harbor and Charleston, S.C. Similar coal from Districts 9, 13, and 15 was delivered at Savannah and at ports on the Gulf of Mexico. The producers in District 13 had almost all of the southern business in 1937. The Gulf ports received 274,000 of the 339,000 tons shipped from District 13.

Table 60 presents the coordinated minimum prices f.o.b. mine for tidewater bunker coal for Districts 1, 7, 8, and 13 whose combined sales accounted for 97 per cent of this type of shipment in 1937. The price schedule disregarded size of coal. As pointed out by the Trial Examiners, "the size most generally shipped is mine run and, if the supplier of bunker coal happens to have any other particular size on hand adaptable for bunker use, he applies that on bunker orders."⁷¹ Quality differences in tidewater vessel fuel were not measured by \$.05 intervals between adjacent "letters" as was customary elsewhere in this industry. Instead there was a grouping of letters and a \$.09 interval between the groups.⁷² The

⁷⁰ *Ibid.*, p. W-8, as revised.

⁷¹ *Ibid.*, p. W-59.

⁷² The reader will recall that *lake* bunker fuel was priced without regard to size or intra-district quality distinctions (section B6 of this chapter). The

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TABLE 60

Coordinated Prices for Steamship Bunker Fuel at Tidewater,
Effective October 1, 1940
(dollars per net ton, f.o.b. mine)

Grade of Coal	District 1 ^a	District 7 ^b		District 8 ^b		District 13 ^c
		Low-Volatile	High-Volatile	Low-Volatile	High-Volatile	
A	} 2.48	} 2.35	} 2.35	} 2.35	} 2.26 ^d	} 2.43 to 2.85 ^e
B						
C						
D	} 2.39	} 2.35	} 2.26	} 2.35	} 2.17 ^d	} 2.43 to 2.85 ^e
E						
F	} 2.30	} 2.35	} 2.26	} 2.35	} 2.17 ^d	} 2.43 to 2.85 ^e
G						
H						
Other						

^a Prices are for New York, Philadelphia, Wilmington, and Baltimore and apply to ships in the export trade. Prices for domestic shipping were .10 lower.

^b Prices apply to ships in the export trade. Prices for domestic shipping were .10 lower.

^c Certain mines could deduct .10 when the sale was made to or through an American agent.

^d F.o.b. mine price to Charleston, South Carolina, was .09 higher.

^e Depending on location of shipping mine.

Source: *Federal Register*, August 24, 1940, p. 2979 (District 1), pp. 3108 and 3112 (District 7), pp. 3135 and 3137 (District 8); August 28, 1940, p. 3331 (District 13).

low-volatile coals of Districts 7 and 8 showed no quality distinctions whatever.

The coordination process began with the establishment of the proper price of District 7's low-volatile tidewater coal for delivery at Hampton Roads. The price fixers considered three factors:

- The competition and the prices current at bunkering stations in Nova Scotia and the British Isles,
- The competition of fuel oil in recent years, and
- The effect on tidewater bunker fuel prices of the "pending European War."

The price thus determined was \$2.55 per net ton f.o.b. mine, or —its equivalent—\$4.60 delivered at Hampton Roads.⁷³

authors cannot explain why the price of a district's vessel fuel should be affected by quality on the seacoast but not on the lake shore. The Trial Examiners said simply that this kind of quality pricing "conforms to existing practice in the distribution and sale of tidewater bunker fuel." *Report . . . of Trial Examiners*, p. W-59.

⁷³ *Ibid.*, pp. 58-61.

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The price of grades A, B, C, and D coals of District 1 when delivered at Baltimore was then established at an \$.11 differential below the \$4.60 price of District 7. Exactly what this 11 cents covered is not clear—perhaps the cost of hauling a ton of coal by water from Baltimore to Hampton Roads. From the \$4.49 price thus established, the freight rate was deducted to give an f.o.b. mine price of \$2.48. These relationships are summarized in Table 61.

TABLE 61
Coordination of Prices for Bunker Fuel at Hampton Roads and Baltimore
for Vessels in Foreign Trade, Effective October 1, 1940
(dollars per net ton)

<i>Price Components</i>	<i>Hampton Roads District 7 Low-Volatile</i>	<i>Baltimore District 1 Grades A B C D</i>
F.o.b. mine price ^a	2.35	2.48
Freight ^b	2.35	2.11
Freight deduction ^c	— .10	— .10
Delivered price	4.60	4.49

^a From Table 60.

^b Report, *Proposed Findings of Fact, Conclusions and Recommendations of Trial Examiners*, as revised (General Docket No. 15), Bituminous Coal Division, April 1940, p. W-49-A.

^c Allowable by order of the Interstate Commerce Commission on coal shipped to Hampton Roads, Baltimore, Philadelphia, and New York for use in vessels engaged in foreign trade. If the reader will turn to Table 60 (footnotes) he will see that the f.o.b. mine price of coal sold to vessels engaged in domestic trade was reduced by .10. Apparently the Trial Examiners concluded that the .10 reduction in freight rates permitted by the Interstate Commerce Commission was discriminatory against the domestic-trade ships, for they authorized an offsetting deduction in the minimum coordinated price schedules for coal sold to vessels in domestic trade. Thus the deep-sea steamer received a .10 deduction by the courtesy of the Interstate Commerce Commission and the coast-wise vessel by the authority of the Bituminous Coal Division.

The coordination of District 8's high-volatile coal with that of District 7 was established on an equal *delivered* basis. Because the freight rate on eastbound shipments from District 8, however, was \$.09 a ton higher than on similar shipments from District 7, the f.o.b. mine prices of the high-volatile coals of District 8 were uniformly \$.09 a ton below similar grades in District 7.

An examination of Table 62 will disclose that tidewater bunker fuel prices on the whole were higher than the prices of the same coal when sold on the Atlantic seaboard for general use. What fac-

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tors pushed the prices of tidewater bunker fuel upward? C. J. Potter of the marketing branch of the Bituminous Coal Division stated that "in determining a bunker price, one of the first points that must be considered was . . . what price is the consumer willing to pay."⁷⁴

TABLE 62
Prices for Tidewater Bunker Fuel and Run-of-mine Coal
for General Use, Effective October 1, 1940
(dollars per net ton, f.o.b. mine)

<i>Producing District and Type of Coal</i>	<i>Grade</i>	<i>General Use^a</i>	<i>Tidewater Bunker Fuel^b</i>
District 1	A	2.45	2.38
	B	2.40	
	C	2.35	
	D	2.30	
	E	2.25	2.29
	F	2.20	
	G	2.15	
	H	2.10	
District 7 Low-Volatile	A	2.15	2.25
	B	2.15	
	C	2.05	
	D	1.95	
District 8 High-Volatile	A	2.15	2.16
	B	2.10	
	C	2.05	
	D	2.00	
	E	1.95	2.07
	F	1.90	
	G	1.85	

^a To Market Areas 1, 2, 100, and 105. *Federal Register*, August 24, 1940, pp. 2978, 3107, and 3129.

^b For sale to coastwise ship operators. *Ibid.*, pp. 2979, 3108, and 3105.

While no other factors were mentioned, it is probably safe to assume that the willingness of the tidewater ship operators to pay prices above those charged seaboard consumers was definitely limited by two considerations pointed out earlier: the possibility of fueling elsewhere and the opportunity of using another fuel.

2. PRICING OF EX-RIVER COAL

Ex-river coal is that "shipped via barge to a river port and thence

⁷⁴ *Brief for Consumers' Counsel Division, In the Matter of the Establishment of Minimum Prices for the Coals Produced in Districts Nos. 1 to 20, Inclusive, 22 and 23 (General Docket No. 15)*, Bituminous Coal Division, February 14, 1940, p. 116.

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via rail or truck to consumers at inland destinations.”⁷⁵ In 1937 four districts shipped 3,172,176 net tons of which about 59 per cent was consumed in market areas east of Sandusky, Ohio (see Table 63). Practically all of the ex-river coal shipped to the markets east

TABLE 63
Shipments of Ex-River Coal, 1937

<i>Producing District</i>	<i>Market Area</i>	<i>(net tons)</i>
EAST OF SANDUSKY		
2 Western Pennsylvania	No. 11 (Youngstown)	923,827
	No. 13 (Eastern Ohio)	742,830
	No. 7 (S.W. Penna.)	13,647
3 Northern West Virginia	No. 11 (Youngstown)	2,772
	No. 7 (S.W. Penna.)	42,160
6 Panhandle (West Virginia)	No. 11 (Youngstown)	74,980
	No. 13 (Eastern Ohio)	54,633
	No. 12 (Painesville, Ohio)	2,404
	No. 4 (Buffalo)	237
	No. 15 (N.W. Ohio)	110
WEST OF SANDUSKY		
8 Southern Numbered 2 High-Volatile	No. 19 (Dayton, Ohio)	577,751
	No. 23 (Muncie, Ind.)	154,806
	No. 24 (Rushville, Ind.)	142,309
	No. 28 (Indianapolis)	291,351
	No. 25 (Brookville, Ind.)	43,154
	No. 26 (North Vernon, Ind.)	29,817
	No. 29 (Chicago)	15,455
	No. 30 (Central Indiana)	24,114
	No. 32 (S.W. Indiana)	13,430
	All other Market Areas ^a	22,389
Total		3,172,176 ^b

^a Nos. 7, 12, 13, 15, 18, 27, 31, 33, 34, 38, 41, and 102. None received as much as 7,000 tons.

^b Does not include 162,579 tons of “unpriced coal” from District 2. Unpriced coal includes tonnages of non-Code-members, tonnages of mines active in 1937 but since closed down or out of business, etc.

Source: “Ex-River Shipments of Bituminous Coal, Exclusive of Railroad Fuel as Reported on Forms D-1 and D-3 for Calendar Year 1937 and Realization obtainable thereon from proposed minimum prices, Districts Nos. 1-15,” Exhibit P-783, Bituminous Coal Division.

of Sandusky originated in Districts 2, 3, and 6, and all ex-river coal that was supplied to market areas west of Sandusky (except 110 tons sent to Market Area 15 by District 6) was high-volatile coal produced by District 8. In terms of tonnage the important producing districts were 2, 8, and 6 in that order.

⁷⁵ Howard A. Gray, in the *Annual Report of the Secretary of the Interior, Fiscal Year Ended June 30, 1941*, p. 202.

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a. *Coordination of ex-river coal and all-rail coal.* The pricing of ex-river coal occasioned much controversy and was given a surprising amount of space in the record, considering the tonnage involved. Moreover, the theory of pricing finally adopted by the Coal Division did not escape criticism.

The Coal Division began the pricing of ex-river coals by drawing upon the schedules of all-rail prices. The price fixers then chose as the theatres of coordination those destinations at which all-rail coal and ex-river coal actually competed. The delivered price of all-rail coal in any given market was, of course, the sum of the f.o.b. mine price and the freight rate direct to the destination. This delivered price was then assigned to the ex-river coal in the same market. The f.o.b. mine price of the ex-river coal was arrived at by subtracting from the delivered price all the transportation and handling charges that were properly incurred in moving it to the destination. Table 64 will serve to illustrate the coordinated relationships between all-rail and ex-river coal.

TABLE 64
Coordination of Prices for All-Rail and Ex-River 2" X 0" Nut Slack
at Youngstown, Ohio, Effective October 1, 1940
(dollars per net ton)

<i>Price Components</i>	<i>District 2 Grade D</i>	<i>District 3 Grade F</i>	<i>District 6 Grade C</i>
All-Rail Coal			
F.o.b. mine	1.82	1.61	1.65
All-rail freight rate	1.52	1.68	1.44
Delivered price	3.34	3.29	3.09
Ex-River Coal			
F.o.b. mine	2.085	1.935	1.885
Vessel rate ^a	.30	.40	.25
Lifting and loading	.055	.055	.055
Ex-river freight ^b	.90	.90	.90
Delivered price	3.34	3.29	3.09

^a From mine to Colona or Conway, Pa.

^b From Colona or Conway, Pa. to Youngstown.

Source: *Report, Proposed Findings of Fact, Conclusions and Recommendations of Trial Examiners*, as revised (General Docket No. 15) Bituminous Coal Division, April 1940, p. W-254-B.

b. *Ex-river prices at certain river towns.* The term "ex-river prices" has come to mean prices of coal shipped by river arrived at by equating their delivered prices with delivered all-rail prices.

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The above discussion concerned ex-river coal for delivery at destinations some distance away from the river. What kind of price coordination was to be used in a case in which river coal normally competed with all-rail coal on an equal-delivered-price basis *at a river town*? The price-fixing agency decided that the coordination would have to be worked out on the "ex-river price" basis. This kind of competitive situation existed at Cincinnati, Louisville, Memphis, Chicago, Minneapolis, and St. Paul. Consequently, the Coal Division ruled that retail dealers in the first three cities would have to purchase coal at "ex-river prices" (that is, at delivered prices equal to the delivered all-rail prices in their respective cities), but dealers in Chicago, Minneapolis, and St. Paul would not. The latter group of dealers was permitted to buy at ex-lake prices (rather than at all-rail prices) because their coal travelled by lake.⁷⁶

In general, it was true that river coal and all-rail coal competed at these river towns at equal delivered prices, but some coal consumers had customarily purchased river coal at prices below the all-rail level. The Coal Division recognized that such situations existed, and therefore recommended that any code member who had customarily supplied coal to particular consumers in this manner and at such prices should be permitted to apply to the Coal Division for exemption from the so-called "ex-river prices." If the application was granted, these sales would then be made at the so-called "river prices"⁷⁷ i.e. the all-rail f.o.b. mine price to loading port plus the cost of river transportation. The Trial Examiners approved this proposal and went on to recommend that such applications for exemption should also be permitted to the Consumers' Counsel acting in behalf of particular consumers or retail dealers. These recommendations were inserted as provisions in the published price schedule of District 8.⁷⁸

c. *Criticisms of ex-river coordinated prices.* The Consumers' Counsel Division contended that the price schedules for ex-river coals were unfair to consumers, discriminated against certain classes of mines and dealers, and denied the public various benefits that might arise from a fuller utilization of our system of inland waterways.⁷⁹ The hearings of the Ways and Means Committee on

⁷⁶ *Report . . . of Trial Examiners*, pp. W-232, W-236, W-239, and W-240.

⁷⁷ More commonly called "free alongside" or "f.a.s. prices."

⁷⁸ *Federal Register*, August 24, 1940, p. 3133.

⁷⁹ *Brief for Consumers' Counsel Division . . .*, pp. 36-61.

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the extension of the Coal Act also brought forth much criticism: in fact, more time was devoted to ex-river coal than to any other aspect of the coal problem.

Many of the complaints made at that hearing, however, displayed a limited understanding of the problem. The Consumers' Counsel pointed out that if all ex-river coal were sold on a "free alongside" basis the consumers would get a lower price and that the average realization of Minimum Price Area 1 would be reduced only \$.002 per ton. No consideration, however, was given to the effect of such a basis upon the competitive position of rail interests in the ex-river markets—a factor which the Coal Division could not disregard.⁸⁰ Assuming, as the Coal Division did, that Congress had not contemplated making a new apportionment of coal markets among producers, we believe that the following statements tend to substantiate the theory of pricing adopted by the Coal Division.

"If ex-river coal were to be priced so as to deliver at substantially less than all-rail coal, existing competitive opportunities at such a point as Cleveland, Ohio, would be most seriously disturbed. This is effectively demonstrated by the fact that there have been unusual and substantial movements of river-borne coal into such destinations as Cleveland during previous periods of governmental price fixing when the prices for all-rail coals were fixed by law and no related ex-river prices were applicable. Under such circumstances, ex-river coals have been able to move to Cleveland, to an extent which they had not done and, apparently, could not do under open competition."⁸¹

Ex-river shipments increased about 20 per cent, from 991,945

⁸⁰ Howard A. Gray, Director of the Coal Division, made this comment: "The theory that was mentioned by the Consumers' Counsel . . . was to do just this—set one price at the mine regardless of transportation. Now, then, in varying degrees you will turn that business tributary to those waterways over to the mines that can get to the waterways, and out of that territory you will take the mines that have to ship by rail to this point, which cannot take advantage of the water. That will be a very great disturbance of the flow of coal, which will involve coal values, railroad values, and a great many other things. For instance, if you do that, then you will have a combination of river and rail rates taking it down the river, taking it on to the river and hauling it that will go away into unpredictable territories, in unpredictable markets and great chaos may possibly result from changing the flow of the mining population and the investments." (*Extension of Bituminous Coal Act of 1937, Hearings on H.J. Res. 101, Revised, U.S. House Committee on Ways and Means, 77th Cong., 1st sess., March 1941, p. 624.*)

⁸¹ *Report . . . of Trial Examiners*, pp. W-214 and W-215.

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tons in the last quarter of 1939 (before minimum prices were effective) to 1,195,848 tons in the last quarter of 1940 (when minima were in effect).⁸² In the same periods the estimated total bituminous coal production of Pennsylvania, West Virginia, and Eastern Kentucky (the principal producers of ex-river coal) declined from 77,600,000 tons to 71,511,000 tons, a decrease of eight per cent.⁸³ This increase in ex-river shipments refutes the contention of the Consumers' Counsel that the various disadvantages of river transportation (degradation, additional moisture, and delays due to weather) would deprive river movement of "even an equal chance with rail under the proposed schedule."⁸⁴

In the period in which coordinated minimum prices were in effect (October 1, 1940—August 23, 1943) 21 applications were made for exemption from "ex-river prices." Permanent relief was granted in 13 cases and temporary relief in three.⁸⁵

3. PRICING COAL FOR USE IN COKE OVENS AND GAS PLANTS

Coal used in coke ovens and gas plants falls into two categories: by-product coal, that is, coal intended for use in by-product coke ovens, and coal consumed in producing water gas and retort gas. The tonnages shipped in 1937 for both categories combined are shown in Table 65. Separate data for each category are not available. Of the 54,800 tons of by-product and gas-plant coal for which coordinated prices were established, 88 per cent was shipped by three districts. District 2 alone accounted for about 45 per cent.

The quality requirements of by-product coal are said to be rigid. Broadly speaking, good coking coal should:

- Have a high-volatile content capable of a rich gas yield,
- Have a low-sulphur content permitting the gas to be used without further treatment in steel production,
- Produce a coke whose ash-fusion temperature is high enough to avoid clinkering,
- Produce a coke whose ash content is low enough to compete with anthracite, and

⁸² Howard A. Gray in the *Annual Report of the Secretary of the Interior*, . . . June 30, 1941, pp. 203-4.

⁸³ *Minerals Yearbook: Review of 1940*, U.S. Bureau of Mines, pp. 766-67.

⁸⁴ *Brief for Consumers' Counsel Division* . . . , p. 56.

⁸⁵ Howard A. Gray in the *Annual Report of the Secretary of the Interior*, . . . June 30, 1943, p. 105.

TABLE 65
Shipments of Coal for Use in Producing Coke, Water-Gas, and Retort-Gas, 1937
(net tons)

Type of Movement	Producing District								
	1	2	3	L.-Vol.	H.-Vol.	H.-Vol.	8	10	13
All-rail	1,497,006	4,382,452	1,312,394	6,436,766	104	4,973,388	113,886	486,678	19,202,674
Tidewater	10,385	428,031	448,100	1,861,282	1,495,514	3,157,626			7,400,938
Lake	242,859	2,582,413	44,519	2,797,230		4,009,177			9,676,198
River	347,797	15,666,135				823,784			16,837,716
Ex-river		1,656,814	225			25,221			1,682,260
Total priced coal	2,098,047	24,715,845	1,805,238	11,095,278	1,495,618	12,989,196	113,886	486,678	54,799,786
Unpriced coal ^a	36,722	375,900		431,591		819,715		5,204,536	6,868,464
Consumed by a steel company ^b	1,598,227	1,862,826	2,109,962						5,571,015

^a Unpriced coal included any size or grade reported by a Code-member producer for which no specific provision was made in the price schedule; tonnage of mines active in 1937 but since closed down or out of business; tonnage of non-Code-members; or any other items not specifically identified in the price schedule.

^b A large non-Code-member producer operating coke mills and steel plants at Sparrows Point, Bethlehem, Steelton, Johnstown, and Lackawanna. It was estimated that at least 85 per cent of the tonnage consumed by this enterprise went into by-product plants.

Source: Coal Division's Exhibit No. P-672, "Summary of Bituminous Coal Shipments as Reported under Designation of By-product (Coke Ovens, Retorts, and Water Gas) . . . for Calendar Year 1937. District Nos. 1-15."

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—Perform satisfactorily in the coke oven of the particular purchaser.⁸⁶

The requirements for coal purchased by retort- and water-gas plants are also high. Such consumers require that:

- The coal have a very rich gas yield;
- For water-gas production it be of large egg size, uniform in consist, and capable of resisting thermal shock; and
- For retort-gas production it be of lump or egg size.⁸⁷

In view of the requirements listed above, it is not surprising to find that “all coals adaptable for by-product purposes are adaptable also for steam uses, but . . . not all coals adaptable for steam use are equally adaptable for by-product uses.”⁸⁸

These rigid requirements for by-product and gas-plant coals would lead one to suppose that if special-use prices were to be set they would be put above the general-use prices. Tonnage data were not available in sufficient detail to permit a definite generalization as to the over-all relationship between these two types of coal. The fact is, however, that for some important movements of by-product coal the prices recommended by the Trial Examiners were either equal to or below the prices of the same coals when intended for general use.⁸⁹

Coal for use in making retort- and water-gas was priced at various levels. Here again, lack of detailed tonnage data precludes a generalization on price relationships. Comparisons of prices in the Western Pennsylvania schedules are not very satisfactory because

⁸⁶ *Report . . . of Trial Examiners*, pp. U-208 to U-210.

⁸⁷ *Ibid.*, pp. U-344 and U-345.

⁸⁸ *Brief for Consumers' Counsel Division . . .*, p. 109. The statement was based upon the testimony of C. J. Potter.

⁸⁹ Run-of-mine by-product coal from Western Pennsylvania (District 2) shipped all-rail to Market Areas 1-9, 11-14, 16 and 100 was priced in the schedules at levels below similar coal for general use. This was, however, reversed for Market Areas 10, 15, 17-20, and other areas. The prices for by-product run-of-mine coal shipped from District 2 by tidewater, lake, river, and ex-river were below the general-use prices for similar coal (there was one exception: ex-river coal loaded on cars in Ohio for shipment to Akron). In the small slack sizes ($\frac{3}{4}$ " \times 0" and under) the by-product coal was priced above the general-use coal. The other slack sizes in Western Pennsylvania were priced variously: some by-product prices equaled general use prices, others were above or below.

The high-volatile run-of-mine by-product coal of District 8 (Southern No. 2) was priced the same as general-use coal when rail-shipped to Market Areas 22-28. When rail-shipped to all other market areas the by-product run-of-mine coal was priced \$.15-.20 below the general-use run-of-mine coal. In the nut-slack sizes the by-product coal was priced above the general-use coal.

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the quantities of coal in the egg sizes suitable for retort- and water-gas production were small. In District 8 comparisons are complicated by the existence of special "industrial" prices in the double-screened sizes.⁹⁰

The principal reason why the prices for special uses were set below those for general use presumably was the pressure of competitive fuels. "Purchasers of coal for by-product application and distributors of coke are extremely important consumers of bituminous coal . . . if by-product coke continues to compete successfully with anthracite and fuel oil, and in certain localities with gas, a valuable market for the bituminous industry will be preserved. If, on the other hand, by-product coke cannot continue successfully to compete with anthracite, fuel oil, or gas, the bituminous coal industry will be deprived of part or all of this valuable market."⁹¹ The demand for coal for special uses is derived from the demand for coke, which appears to be elastic, particularly in relation to anthracite—a coke substitute that can be burned without special equipment.

In the gas-plant market, bituminous coal met direct competition from fuel oil. For example, the minimum price proposed by the Division for grade A, 2" × 4" egg coal, rail-shipped from District 2 to Market Area 2 for water- and retort-gas use was \$2.30 f.o.b. mine. The Springfield Gas Light Co., which had been buying this coal for \$2.05, indicated that it would probably stop using coal at the new price and adapt its plant to the use of fuel oil. It was believed that other New England gas companies might do likewise. Therefore, to hold this market for coal, the Trial Examiners recommended that the price be set at \$2.05 instead of \$2.30.⁹²

Were these special-use coals under free competition priced *above*

⁹⁰ In Western Pennsylvania the special-use prices (retort- and water-gas) of stove, nut, and stoker sizes of coal were lower, for shipment to most market areas, than the general-use prices. In District 8 the special-use prices for the 5" × 2", 4" × 2", 5" × 1½", and 4" × 1½" sizes were lower than for the same sizes in domestic use. With respect to "industrial" prices (in the market areas where they were provided for), the retort- and water-gas prices were equal or slightly higher.

⁹¹ *Report . . . of Trial Examiners*, p. U-219. Other factors considered by the Trial Examiners are given on pages U-253 and U-254, but the competitive fuel factor was the only one whose influence is necessarily downward.

⁹² *Ibid.*, pp. U-363 and U-364. The size ½" × 4" mentioned on page U-363 appears to be a misprint for 2" × 4", the size shown on page U-364.

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what they could bring in general uses? The "rigid" requirements suggest an affirmative answer. The Brief for the Consumers' Counsel Division points out that "in some markets it is said that by-product coals have normally commanded a higher price than have coals of the same size when sold for steam purposes, and in other markets the price for the two uses has been equal."⁹³ If this was true, then the price-fixing process inverted the old relationship. One explanation for this reversal in price relationships was found in the stronger bargaining position of the consumers of special-use coal. Coal for general use could be priced higher than formerly without much reduction in its effective demand. Coal used for by-product and water- and retort-gas purposes presumably could not be priced above its former levels without risking a considerable loss of business.

4. PRICING COAL FOR DOMESTIC AND INDUSTRIAL USES

Among the uncoordinated minimum price schedules proposed in the winter of 1938-39 were schedules from four districts (Nos. 8, 9, 13, and 15) that priced particular coals at one level for domestic use and at another for industrial use. When the tentative coordinated minimum prices were published in the early summer of 1939, five more districts (Nos. 2, 3, 4, 6, and 7) included such differentiations in their schedules. The propriety of this sort of pricing was debated at the Hearing, and the Trial Examiners subsequently recommended that such price differentiations be dropped from the schedule of Districts 2, 3, 4, and 6.⁹⁴ When the final price schedules appeared in August 1940 only five districts (Nos. 7, 8, 9, 13, and 15) included these "use classes" in their schedules.

The schedule for District 9 priced the lump and egg coal produced by a certain group of mines (Nos. 28, 40, 45, 60, 67, 76, 79, 80, and 81) moving by rail to all market areas 15 and 20 cents higher when sold to industrial buyers than when sold to domestic buyers.⁹⁵ The schedules of the other four districts granted lower prices to the industrial buyers than to the domestic consumers. It has not been possible to ascertain the reasons which led to the inclusion of these "use classes" in the schedules of Districts 9, 13,

⁹³ *Brief for Consumers' Counsel Division . . .*, p. 114. The statement was based upon the testimony of C. J. Potter.

⁹⁴ *Report . . . of Trial Examiners*, pp. 530, 578, 582, and 595.

⁹⁵ *Federal Register*, August 28, 1940, pp. 3203-5. The same use differentials applied to "free alongside" river shipments.

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and 15.⁹⁶ In District 7's schedule the price differential for high-volatile coal was the result of a policy of equating the schedules of Districts 7 and 8 in certain markets.

Some information is available in the case of District 8's prices on high-volatile coals.⁹⁷ The Trial Examiners recommended the inclusion of a domestic-industrial differentiation in the schedule because "it has been customary for the producers of District 8 to accord to industrial consumers with on-line track connections, or direct river connections, prices for these coals lower than those for other consumers." This custom, they said, was based upon the beliefs (1) that "coal is purchased regularly throughout the year by industrial consumers as contrasted with the irregular demands made for domestic consumption," and (2) that "industrial plants require a fixed price throughout the year in order to establish and maintain a definite and economic sales policy and to budget their costs and determine their costs per unit of production."⁹⁸

The price differentials in favor of industrial consumers of District 8's high-volatile coal are shown in Table 66. The prices of comparable sizes were brought together for the preparation of this table. The grade "letters" that occurred most frequently were used

TABLE 66
Price Differentials Granted to Industrial Consumers of High-Volatile Coal from Producing District 8, Effective October 1, 1940 (dollars per net ton)

Movement ^a and Market Area	Size Group					
	Large Egg	Medium Egg	Small Egg	Stove	Nut	Stoker
All-rail:						
Markets 100, 105	.35	.25	.25	.10	.15	.15
Markets 22-28, etc. ^b	.35	.25	.25	.10	.15	.25
All other markets	.25	.15	.15	0	.05	.15
River (F.a.s.)	.25	.15	.15	0	.05	.15

^a No "industrial" price differentials were established for Tidewater, Great Lakes, and all-rail coal to Market Areas 1, 2, and 3.

^b Namely, 121-126, 128, 129, 131, 133-37, and 141.

Source: Based on data in the *Federal Register*, August 24, 1940, pp. 3119-33. For the grade letters compared, see footnote 99 in text.

⁹⁶ No explanations were found by the writers in the *Federal Register, Report . . . of Trial Examiners*, or the *Brief for Consumers' Counsel Division*.

⁹⁷ Neither here nor in District 7 was there a price differential between domestic and industrial uses of low-volatile coal.

⁹⁸ *Report . . . of Trial Examiners*, p. 566.

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in making price comparisons.⁹⁹ These amounts measure roughly the penalty the domestic consumer was asked to pay for purchasing most of his coal in the fall and winter. If domestic consumers had changed their buying habits and had taken their coal in equal monthly amounts throughout the year as industrial consumers usually do, they probably could have reduced their excess payments; but seasonal price discounts, on the whole, would not have equated these prices with those paid by industrial consumers.

D. Summary

The huge task of setting minimum prices for the bituminous coals of the United States was divided by the Act into two stages. The first was the proposal of minimum prices by the industry's representatives within each producing district. This stage was the subject of Chapter VII. The second involved the coordination of minimum prices into a comprehensive structure embracing the total production of the industry. In the present chapter we have attempted to show how this coordination was worked out.

At this stage the price fixers had to focus their attention primarily upon the market. The whole apparatus of hearings and statistical investigation was employed not only in making broad measurements of production, shipments, costs, and related factors, but also in the disclosure and elucidation of particular competitive relationships between coals in particular markets. Detailed consideration of competitive relationships between coals was required by the Act, and was necessary to establish a workable minimum price structure.

The Coal Division appears to have devoted its attention first to all-rail coals, which represent a substantial volume of all coal shipped. The selection of these coals may also be accounted for by the fact that railroad freight rates—which had to be taken as “given”—enter directly into the delivered prices of these coals and indirectly affect the delivered prices of most other coals. In each of the major market areas the Coal Division, after considering the relevant factors, recommended minimum delivered prices for the

⁹⁹ Of 77 mines whose “industrial” coals were graded A not more than 19 showed the letter A for identical coals going to domestic consumers. The modal “letters” were:

Domestic use, large and medium egg	F
Domestic use, small egg and stove	E
Domestic use, nut and stoker	C

The prices of coals of these “grades” and sizes were compared with industrial A coals of the same sizes.

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most important of the competing coals. Prices f.o.b. mine were simply the delivered prices minus the appropriate freight rates. The minimum prices of less important all-rail coals were then arrived at by relating these coals to the more important coals competing in the same markets. Because it would not have been practicable to deal with the coordination of coals shipped to all markets, the authors have described the coordination of all-rail prices in Ohio, since this area illustrates the general procedure. Ohio has also been used as the framework for the discussion of railroad fuel, various forms of lake shipment, river coal, truck coal, size differentials and seasonal discounts.

Setting minimum prices on railroad fuel was a special problem. A railroad does not make a freight charge for hauling its own purchased coal, and grades and sizes of coal are of little concern to the railroad. The Coal Division chose an important Ohio coal and assigned it a minimum price about equal to that currently prevailing for railroad fuel. Other railroad coals were priced so that their existing competitive relationships with the Ohio coal would be preserved.

Lake cargo railroad fuel resembles regular railroad fuel in that grade and size are not very important. It resembles all-rail coal in that freight rates (and analogous vessel rates) enter into the price the consuming railroad must pay. Price coordination was worked out at the destination port of Duluth.

Coal dumped as cargo into vessels on the lakes but not intended for railroad consumption was handled differently by the price fixers. Coordination was worked out at the lower Lake Erie ports. The price of lake cargo coal from District 8 was made to equal that of the corresponding all-rail coal from the same district.

Coals sold for consumption in lake vessels were assigned minimum prices f.o.b. mine about equal to the prices that had been set for the corresponding 2" x 5" industrial egg coals shipped all-rail from the various producing districts to destinations in Market Area 13, in eastern Ohio.

Coals shipped by river from Ohio were given f.o.b. mine prices about equal to those of similar all-rail coals. Although the delivered prices were lower than for all-rail coal, the differentials between competing river coals were the same as between corresponding all-rail coals.

The coals produced in Ohio and moved by truck to the consumer were given minimum prices f.o.b. mine without regard to market areas. The minimum prices of the truck coals were about the same,

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in the small sizes, as those of the corresponding all-rail coals when sold in the "home markets" of Ohio. In the large sizes the truck coals were assigned higher minimum prices than those of comparable all-rail coals.

Our analysis shows that price differentials for the various sizes of coal varied from market to market, and that seasonal discounts for domestic sizes were greatest in April and diminished to zero in September.

Other problems of minimum price coordination which were not found in Ohio have been discussed in a broader setting. The first of those is the pricing of coal that moves by rail and tidewater from the producing districts to the consumers in New England and the Middle Atlantic states. The tidewater coals of Districts 1, 2, and 3 were assigned minimum f.o.b. mine prices that were equal to those of similar coals shipped all-rail to Market Areas 1 and 2. The two Southern districts (Nos. 7 and 8) were assigned somewhat different minimum prices in order to preserve the balance between the all-rail and the tidewater coals of districts competing in Market Areas 1 and 2. Minimum prices recommended for tidewater bunker fuel were higher than those for the same coals moving all-rail to the Atlantic seaboard for general use.

Another problem discussed outside the Ohio framework is the pricing of ex-river coals, that is to say, coals moving at first by river and later by rail to the consuming destination. The procedure of the Coal Division was to assign to ex-river coal the same delivered minimum prices as all-rail coal and then subtract the appropriate rail and river charges to get the f.o.b. mine prices. As this arrangement, in some cases, worked a hardship upon sellers and buyers of ex-river coal the Coal Division provided for particular exemptions.

When considering the pricing of coals for use in coke ovens and gas plants we find that, although these coals must meet rigid requirements for such uses, the prices assigned by the Coal Division were in some instances lower than those for the same coals going into general use. This pricing was explained by the pressure of competition from other fuels.

Certain price schedules provided for price differentials on coals sold to industrial consumers. In one district the industrial buyers were required to pay a higher price, but in the other districts where a differential was established the industrial price was set below the price of the same coal to domestic consumers. The explanation given was that the purchases by industrial buyers are

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regular throughout the year and that this was advantageous to sellers of coal.

The problems of developing coordinated minimum prices were different from those encountered in the preceding stage. It is evident, however, that in neither stage was it possible to employ simple formulae. Each problem had to be treated largely in its own characteristic terms and, of course, these treatments had to fulfil the requirements of the Act. Moreover, in both stages judgment played a large role in the development of the price schedules.