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CHAPTER XI

POSTSCRIPT: RECENT DEVELOPMENTS IN THE BITUMINOUS COAL INDUSTRY

INASMUCH as the minimum price-fixing experiment was discontinued in 1943, the reader may wonder what happened to prices, wages, and related factors in the industry in subsequent years. The salient statistics presented in Tables 96 to 101 disclose trends in this industry during the years 1939 to 1951 inclusive. Indices are computed on a 1939 base. Because that year does not constitute a definitive base, absolute figures where available are also given.

A. Rate of Operation

Table 96 shows that production rose steadily during the first five years. In 1944, output was 57 per cent higher than in 1939. The decline that followed was interrupted by an all-time peak of 631 million tons in 1947. In the next years, production moved to lower levels but rose presumably as the result of hostilities in Korea. In no postwar year did production fall to the 1939 level, not even in

TABLE 96
Annual Production of Bituminous Coal, Capacity, Excess Capacity,
and Number of Mines, 1939-1951

Year	Production		Capacity at 280 Days		Excess Capacity ^b		Number of Mines	
	(millions of tons ^a)	(1939 =100)	(millions of tons ^a)	(1939 =100)	(millions of tons)	(1939 =100)	(number ^a)	(1939 =100)
1939	395	100.0	321	100.0	226	100.0	5,820	100.0
1940	461	116.7	639	102.9	178	78.8	6,324	108.7
1941	514	130.1	666	107.2	152	67.3	6,822	117.2
1942	583	147.6	663	106.8	80	35.4	6,972	119.8
1943	590	149.4	626	100.8	36	15.9	6,620	113.7
1944	620	157.0	624	100.5	4	1.8	6,928	119.0
1945	578	146.3	620	99.8	42	18.6	7,033	120.8
1946	534	135.2	699	112.6	165	73.0	7,333	126.0
1947	631	159.7	755	121.6	124	54.9	8,700	149.5
1948	600	151.9	774	124.6	174	77.0	9,079	156.0
1949	438	110.9	781	125.8	343	151.8	8,559	147.1
1950	516	130.6	790	127.2	274	121.2	9,429	162.0
1951	534	135.2	736	118.5	202	89.4	8,009	137.6

^a *Bituminous Coal and Lignite in 1952*, Mineral Market Summary, No. 2222, U.S. Bureau of Mines, p. 7.

^b Excess capacity equals capacity minus production.

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1949 when the number of days worked fell about 12 per cent below that reported for 1939.

The estimated capacity on a 280-day year rose in the early forties and then declined. Between 1943 and 1945 it hovered near the 1939 figure. Thereafter, it began to climb and reached a level which in 1950 was about 27 per cent above that of 1939. The decline in 1951 reduced the percentage increase to 18.5.

As was to be expected, excess capacity dropped steadily during the war years. In 1944, capacity on a 280-day basis exceeded annual production by only 4 million tons. Its movement in the postwar years was exceedingly irregular, notwithstanding a steady and very substantial rise in average daily production until 1951. The very substantial increase in 1949 may be explained in large part by the union-imposed three-day week and 421 work stoppages involving the equivalent of 1,130,000 workers and leading to 16,700,000 man-days of idleness.¹ The greatly reduced output almost doubled excess capacity in that year. The following year, 1950, reached a level about 21 per cent above that prevailing in the base year, although strikes numbered 430, workers involved 165,000, and man-days idle 9,320,000. In 1951, excess capacity dropped to about 11 per cent below the 1939 level.

In response to a strong demand for coal, the number of mines in operation increased until 1949, except during 1943 and 1944. By 1948, the number had increased 56 per cent above the 1939 base. After a decline in 1949, the number increased to 62 per cent above the 1939 level, and then in 1951 dropped to about 38 per cent above. It should be noted that surface mining made the greatest gains in this period. By 1951, deep mines had increased 17.8 per cent and strip mines 232.2 per cent above their 1939 levels.

At the close of this 13-year period, production was 35.2 per cent above the levels prevailing in 1939, capacity 18.5 per cent above, and number of mines 37.6 per cent above, but excess capacity dropped to 11 per cent below its base.

B. Prices, Wages, and Profits

The short-run objective of minimum price fixing in this industry was to hold destructive price and wage cutting in check and to afford the operators an income which would enable them to maintain labor standards consistent with those prevailing in similar in-

¹ Data from U.S. Bureau of Labor Statistics, reprinted in *Statistical Abstract of the United States, 1950*, U.S. Bureau of the Census, p. 706. Workers involved in more than one strike are counted separately each time.

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dustries. What happened to prices, wages, and profits in the post-war years?

Table 97 shows that average value per ton at the mines rose steadily in every year through 1948, when it was about 171 per cent above the 1939 base. The decline that occurred thereafter was relatively inconsequential. In no year did it fall more than 8 percentage points below the 1948 peak. The upward march of wholesale and retail prices continued throughout the period. Wholesale prices increased 107 per cent and retail prices 98 per cent.

Average hourly earnings climbed without interruption. In 1951 they were 150 per cent above those prevailing in 1939. The average annual earnings per full-time employee also moved upward through 1948 when they were 183 per cent above the 1939 base. The reductions reported in 1949 and 1950 were occasioned by a shorter work week and fewer days worked. In 1951, average annual earnings amounted to \$3,841, the highest recorded for the industry.

The operators steadily improved their profit position, both before and after federal taxes, from 1939 to 1943 inclusive. The drops in 1944 and 1945 undoubtedly may be accounted for by the excess profits tax levied in those years. Profits began an upward climb again in 1946, rose sharply in the next two years, and then declined. Profits after federal taxes in both 1949 and 1950, however, were higher, in most years much higher, than those prevailing in the years 1940 to 1946 inclusive. Data are not available after 1950. The profit position of the industry in the postwar years was immeasurably better than that prevailing in the thirties when the industry as a whole reported losses in each year.

It is quite apparent that ruinous price slashing did not occur subsequent to World War II, that the miners' union was not only able to hold existing wage levels but definitely improved them, and that the industry continued to operate at a profit. Whether the favorable conditions that led to these results would have continued in the absence of the national emergency created by the invasion of South Korea is a matter of opinion.

C. Consumption and Competitive Position

What happened during these 13 years to the consumption of bituminous coal and its competitive position relative to other fuels? This question is particularly important in the light of increases in the average value of coal at the mine that amounted to 165 per cent by 1951.

TABLE 97

Average Annual Prices, Wages, and Profits in the Bituminous Coal Mining Industry, 1939-1951

Year	Prices per Ton			Wages Earned			Profits or Losses			
	f.o.b. Mine			Retail			Hourly (1939 dollars ^b) =100)	Annual (1939 dollars ^d) =100)	Before Federal Taxes ^e (millions of dollars)	After Federal Taxes ^e (millions of dollars)
	(dollars ^a) =100)	Wholesale (1939 dollars ^{b,c}) =100)	(1939 dollars ^b) =100)	(1939 dollars ^b) =100)	(1939 dollars ^a) =100)					
1939	1.84	100.0	4.311	100.0	8.52	100.0	.886	1,197	-6.2	-9.0
1940	1.91	103.8	4.309	100.0	8.60	100.9	.883	1,235	+14.4	+7.8
1941	2.19	119.0	4.560	105.8	9.10	106.8	.993	1,500	+42.7	+23.6
1942	2.36	128.3	4.782	110.9	9.51	111.6	1.059	1,715	+67.9	+34.1
1943	2.69	146.2	5.045	117.0	9.94	116.7	1.139	2,115	+96.2	+46.9
1944	2.92	158.7	5.239	121.5	10.27	120.5	1.186	2,535	+92.7	+43.8
1945	3.06	166.3	5.356	124.2	10.49	123.1	1.240	2,629	+71.3	+35.7
1946	3.44	187.0	5.775	134.0	10.95	128.5	1.401	2,724	+80.5	+50.6
1947	4.16	226.1	6.873	159.4	12.99	152.5	1.636	3,212	+258.7	+168.4
1948	4.99	271.2	8.117	188.3	15.40	180.8	1.898	3,383	+309.6	+196.6
1949	4.88	265.2	8.643	200.5	15.83	185.8	1.941	2,930	+97.3	+54.3
1950	4.84	263.0	8.738	202.7	16.48	193.4	2.010	3,268	+163.2	+93.8
1951	4.87	264.7	8.928	207.1	16.87	198.0	2.212	3,841	f	f

^a *Bituminous Coal and Lignite in 1952*, Mineral Market Summary, No. 2222, U.S. Bureau of Mines, p. 7.

^b Data from U.S. Bureau of Labor Statistics reprinted in *1952 Bituminous Coal Annual*, Bituminous Coal Institute, p. 147.

^c Run-of-mine coal, average of 21 cities.

^d Average earnings per full-time employee. 1939-1948 in *National Income, 1951 Edition*, a supplement to the *Survey of Current Business*, pp. 184-85. 1949-1951 in *Survey of Current Business* (National Income Number), July 1953, p. 20.

^e Data from U.S. Bureau of Internal Revenue for 1939-1947 reprinted in *1952 Bituminous Coal Annual*, p. 188. Subsequent years direct from *Statistics of Income*, Part 2, 1948, p. 85; 1949, p. 81; and 1950, p. 5.

^f Data not available.

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1. CONSUMPTION

Table 98 indicates that consumption rose from 1939 through 1943 and thereafter moved erratically. It never again reached the 1943 peak but neither did it fall to the 1939 level. In 1951, it was about 25 per cent above the base year. Per capita consumption of bituminous coal increased 55 per cent by 1944 and began an irregular decline. At the close of the period it was only seven per cent above the base.

The percentage contributed by bituminous coal to the total fuel and energy requirement of the country rose from 1939 through 1942 and then moved irregularly to lower levels. By 1951 its percentage contribution was only 36.3 instead of 45.6, the percentage reported for 1939. During this 13-year period, its contribution to electric utilities dropped from 74.5 to 66.2 per cent, to Class I railroads for locomotive fuel from 78.0 to 30.6, and to residential and commercial heating from 33.3 to 20.3. From 1943 through 1951 the iron and steel industries' requirements of coal dropped from 76.4 to 73.6 per cent. Although bituminous coal consumption increased somewhat faster than the growth of population, it lost ground in comparison with petroleum, water power, and particularly natural gas when viewed from the standpoint of the country's total fuel requirements, and its contribution to the fuel requirements of designated uses declined in all instances.

2. COMPETITIVE POSITION OF BITUMINOUS COAL

Bituminous coal competes directly with fuel oils, liquefied petroleum gases, natural gas, hydroelectric power, and anthracite. Data on petroleum should, therefore, exclude gasoline, diesel oil used in trucks, tractors, etc., oil used in road maintenance, and lubricants. Data on natural gas should not include that portion consumed in the manufacture of carbon black.

What has happened to the share that bituminous coal has contributed in those markets for fuel in which it competes directly? Table 99 shows the percentages on a Btu basis contributed by each of the competing fuels and hydroelectric power for the 13 years under consideration. It will be observed that both bituminous coal and anthracite have failed to hold their competitive position in these markets. Hydroelectric power showed slight gains, while petroleum products and particularly natural gas have made very substantial inroads. In 1951, bituminous coal contributed only 43.3 per cent as compared with 57.2 in 1939.

TABLE 98
Measures of the Consumption of
Bituminous Coal, 1939-1951

Year	Estimated Consumption		Per Capita Consumption		Fuel Requirements of				
	(millions of net tons)	(1939 =100 ^a)	(net tons)	(1939 =100 ^b)	Total Fuel and Energy Requirements ^a	Electric Utilities	Class I Rail-roads for Loco-motive Fuels	Iron and Steels ^c	Residential & Commercial Heating ^f
1939	376	100.0	2.87	100	45.6	74.5	78.0	g	33.3
1940	431	114.6	3.27	114	47.9	77.8	77.5	g	36.1
1941	492	130.8	3.70	129	49.4	78.6	75.8	g	37.6
1942	540	143.6	4.04	141	52.1	79.4	74.3	g	38.1
1943	594	157.9	4.43	154	50.2	78.4	73.4	76.4	41.9
1944	590	156.8	4.45	155	48.9	76.4	70.5	76.9	41.1
1945	560	148.8	4.23	147	46.5	76.6	67.0	75.8	40.1
1946	500	133.0	3.58	125	44.0	72.9	63.8	75.6	33.6
1947	546	145.1	3.81	133	46.3	73.7	60.6	76.6	30.7
1948	520	138.2	3.56	124	42.9	73.3	53.3	76.0	26.6
1949	446	118.5	3.00	104	36.4	65.1	42.9	75.7	27.1
1950	454	120.8	3.00	104	38.2	64.2	36.8	73.7	24.0
1951	469	124.7	3.06	107	36.3	66.2	30.6	73.6	20.3

^a Computed from Weekly Coal Report No. W.C.R. 1802, U.S. Bureau of Mines.

^b Computed from *ibid.*, and the *Statistical Abstract of the United States, 1952*, p. 10. Population data used do not include U.S. Armed Forces serving outside the continental United States.

^c From *1950 Bituminous Coal Annual*, p. 106 and *1952 Bituminous Coal Annual*, Bituminous Coal Institute, p. 116.

^d From *1952 Bituminous Coal Annual*, p. 126.

^e *Ibid.*, p. 129. Data include coal used in the production of coke.

^f From *1950 Bituminous Coal Annual*, p. 124 and *1952 Bituminous Coal Annual*, p. 132.

^g Data not available.

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TABLE 99

Bituminous Coal and Its Competitors in
Common Markets, 1939-1951
(per cent supplied, on total Btu basis)

Year	Bituminous Coal	Petroleum Products	Natural Gas	Hydroelectric Power	Anthracite
1939	57.2	17.5	12.8	5.2	7.3
1940	59.2	17.2	12.3	4.9	6.4
1941	59.4	17.4	12.1	4.8	6.3
1942	59.9	16.7	12.1	5.2	6.1
1943	59.4	17.3	12.4	5.4	5.5
1944	57.8	18.4	13.0	5.2	5.6
1945	56.1	19.3	13.9	5.7	5.0
1946	52.9	20.1	15.3	6.0	5.7
1947	54.2	20.4	15.4	5.5	4.5
1948	51.4	21.2	17.2	5.5	4.7
1949	46.7	22.7	20.3	6.4	3.9
1950	44.5	23.9	21.9	6.0	3.7
1951	43.3	24.0	23.9	5.5	3.3

Source: 1952 *Bituminous Coal Annual*, Bituminous Coal Institute, p. 114.

D. *Technological Developments and Employee Productivity*

Confronted with mounting prices and wages and an improved profit position, what action did management take to economize in its use of labor? It introduced labor-saving devices and improved machinery in the mining and preparation of coal, and increased the proportion of surface or strip mining in relation to deep or underground mining.²

Table 100 gives the percentages of the total output that were (1) mechanically loaded, (2) cleaned by machine, and (3) produced by surface mines. In this 13-year period, the percentage of coal loaded by machine rose steadily, from 31.0 to 73.1 per cent, that cleaned mechanically rose from 20.1 to 45.0 per cent, and that produced by strip mines from 9.6 to 22.0 per cent. These

² The following data on costs and margins of bituminous coal for 1945, in dollars, throw light on the savings resulting from technological innovations:

Item	Hand Loaded Mines	Machine Loaded Mines	Strip Mines
Labor costs	2.27	1.68	.98
Total reported costs	3.34	2.81	2.30
Operators' margin	.11	.18	.29

(*Preliminary Survey of Operating Data for Commercial Bituminous Coal Mines for the Years 1943, 1944, and 1945*, OPA Economic Data Series, No. 2, Office of Price Administration.)

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TABLE 100

Mining Technology and Employee Productivity, 1939-1951

Year	Per Cent of Total Output Contributed by			Output per Man per Day			
	Mechanical		Surface Mining	Underground Mines		Surface Mines	
	Loading	Cleaning		(net tons)	(1939 =100)	(net tons)	(1939 =100)
1939	31.0	20.1	9.6	4.92	100.0	14.68	100.0
1940	35.4	22.2	9.2	4.86	98.8	15.63	106.5
1941	40.7	22.9	10.7	4.83	98.2	15.59	106.2
1942	45.2	24.4	11.5	4.74	96.3	15.52	105.7
1943	48.9	24.7	13.5	4.89	99.4	15.15	103.2
1944	52.9	25.6	16.3	5.04	102.4	15.89	108.2
1945	56.1	25.6	19.0	5.04	102.4	15.46	105.3
1946	58.4	26.0	21.1	5.43	110.4	15.73	107.2
1947	60.7	27.7	22.1	5.49	111.6	15.93	108.5
1948	64.3	30.2	23.3	5.31	107.9	15.28	104.1
1949	67.0	35.1	24.2	5.42	110.2	15.33	104.4
1950	69.4	38.5	23.9	5.75	116.9	15.66	106.7
1951	73.1	45.0	22.0	6.08	123.6	16.02	109.1

Source: *Bituminous Coal and Lignite in 1952*, Mineral Market Summary, No. 2222, U.S. Bureau of Mines, pp. 18 and 29.

increases are impressive. As a result output per man per day in underground mines increased about 24 per cent and that of strip mines 9 per cent.

E. Opportunity for Employment

What impact did the replacement of labor with capital have on employment? Table 101 shows that except in 1949 the days worked by the mines were greater than in 1939 and in many years much greater. In 1949, they dropped about 12 per cent below the 1939 level. In 1951, they were 14 per cent higher than in the base year.

The operators evidently believe it to be more advantageous to reduce the size of the work force and maintain or increase working time. Notwithstanding a rise in per capita bituminous coal consumption of about 7 per cent during these 13 years, management employed 11.6 per cent fewer men than they did at the beginning of the period. Some idea of the impact of technological developments is disclosed by the number of men employed per million tons and the number of man-days per million tons. It will be observed that the former dropped about 35 per cent and the latter 25 per cent.

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TABLE 101

Days Worked, Employment, and Labor Requirements, 1939-1951

Year	Average Days Worked by Mines		Men		Men per Million Tons		Man-days per Million Tons	
	(number ^a)	(1939 =100)	(number ^a)	(1939 =100)	(number ^b)	(1939 =100)	(number ^b)	(1939 =100)
1939	178	100.0	421,788	100.0	1,068	100.0	190,072	100.0
1940	202	113.5	439,075	104.1	952	89.1	192,393	101.2
1941	216	121.3	456,981	108.3	889	83.2	192,039	101.0
1942	246	138.2	461,991	109.5	792	74.2	194,940	102.6
1943	264	148.3	416,007	98.6	705	66.0	186,146	97.9
1944	278	156.2	393,347	93.3	634	59.4	176,372	92.8
1945	261	146.6	383,100	90.8	663	62.1	172,992	91.0
1946	214	120.2	396,434	94.0	742	69.5	158,871	83.6
1947	234	131.5	419,182	99.4	664	62.2	155,449	81.8
1948	217	121.9	441,631	104.7	736	68.9	159,723	84.0
1949	157	88.2	433,698	102.8	990	92.7	155,458	81.8
1950	183	102.8	415,582	98.5	805	75.4	147,387	77.5
1951	203	114.0	372,897	88.4	698	65.4	141,757	74.6

^a *Bituminous Coal and Lignite in 1952*, Mineral Market Summary No. 2222, U.S. Bureau of Mines, p. 18. The number of days is obtained by dividing the total number of man-days by the average number of employees on the payroll when mines are working.

^b Computed from *ibid.*

F. Union Membership

Despite the decline in total employment, the membership of the United Mine Workers of America has continued at about its prewar strength. In 1949, the latest year for which the membership figures are available, the percentage of workers in the industry belonging to this union was 92 as compared with 92.5 per cent, the percentage prevailing in 1940.

In terms of volume of coal produced, the industry appears to be about 80 per cent unionized by the U.M.W. of A. This estimate is based on the fact that during the weeks when the union closed down those mines which normally maintain collective bargaining contracts with it, about two million tons of coal were produced—about one-fifth of the normal weekly output for that year. The membership percentage is higher because much of the nonunion coal is produced by surface mines, whose output per man per day is much higher than that of underground operations.⁸

⁸ In 1949, strip mines contributed 24.2 per cent of the industry's total output and employed about 10 per cent of all mine workers. (*Bituminous Coal and Lignite in 1949*, Mineral Market Report, No. 1923, U.S. Bureau of Mines, p. 40.)

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This analysis of recent developments in the bituminous coal industry discloses that the postwar years did not usher in severe competition and the spiral of price cuts followed by wage reductions that had characterized this industry in much of the twenties and in the early thirties.

On the contrary, by 1951 production had increased substantially (35.2 per cent) and per capita consumption had risen moderately (7 per cent). Retail, wholesale, and mine prices had risen to much higher levels; wages had set a new high record, and profits were well above those of the prewar years. Moreover, the dominant labor organization had maintained its membership and, as events in late 1952 demonstrated, its economic power.

All of these achievements have been attained despite heavy inroads by natural gas and petroleum products in the markets supplied by bituminous coal. However, substantial technological developments have reduced the number of mine workers carried on the payrolls and particularly the manpower requirements measured in terms of men and man-days needed to produce a million tons of coal.