CHAPTER XII

FACTORS RELATING TO INCOME FROM MINES, QUARRIES, AND OIL WELLS

The industry dealt with in this book under the general title "Mining" is composed of four parts:

1. Metal mines.
2. Coal mines.
3. Petroleum and gas wells.
4. Other non-metal mines and quarries.

The conditions prevailing in these four divisions are often quite diverse; hence, in the following pages, certain facts have been presented for some of the individual fields. In addition, a study has been made of the concentration of ownership in this industry.

Ratio of Interest Payments on Funded Debt to its Par Value.

Table CI shows the ratio of the total interest actually paid to the amount of funded debt outstanding, as shown by the records of a number of sample companies in three of the four branches of the industry. The figures indicate that, in the coal industry, a slow but steady increase in this ratio persisted during the entire period between 1911 and 1925. Records for oil and gas producers are not complete enough to have significance before 1918. From that date until 1921, the ratio of interest payments to principal tended to increase, but, after 1922, there was a marked decline. In the case of corporations operating metal mines, reports are available from the larger companies only. The rate of interest payments on the funded debt of these larger companies increased steadily from 1909 to 1922. After that date, a diminution in the rate of payment is apparent. It appears to be true that the changes in these ratios of interest to par value of the funded debt accord fairly well with the movements of interest rates in general, giving but relatively little indication of any changes which may have occurred in the stability of this particular industry.

Ratio of Dividend Payments on Preferred Stock to its Par Value.

The ratio of dividends actually paid to the par value of preferred stock outstanding is given in Table CII. In the earlier years

TABLE CI

RATIO OF THE TOTAL INTEREST ACTUALLY PAID ON THE FUNDED DEBT TO THE TOTAL FUNDED DEBT OUTSTANDING IN A SAMPLE GROUP OF CORPORATIONS IN EACH OF THE SPECIFIED BRANCHES OF MINING[a]

Year	All Mines, Quarries and Oil Wells		Coal		Oil and Gas		Metals	
	Number of Corporations	Interest Rate Paid	Number of Corporations	Interest Rate Paid	Number of Corporations	Interest Rate Paid	Number of Corporations	Interest Rate Paid
1909	12	.049	7	.049	b	b	5	.051
1910	12	.049	7	.049	b	b	5	.054
1911	14	.049	7	.048	b	b	7	.054
1912	17	.049	7	.048	b	b	9	055
1913	21	.050	10	.048	2	.060	9	.055
1914	21	.050	9	.049	2	.060	10	.056
1915	25	.051	11	.050	2	.060	12	.056
1916	20	.052	12	.050	1	.060	7	.055
1917	20	.052	12	.050	1	.060	7	.056
1918	26	.053	13	.050	7	.057	6	.060
1919	30	.055	13	.050	9	.055	8	.061
1920	32	.058	14	.050	10	.061	8	.062
1921	37	.061	14	.050	15	.067	8	.064
1922	39	.062	15	.050	15	.067	9	.065
1923	39	.061	15	.050	15	.063	9	.064
1924	35	.059	13	.051	15	.060	7	.062
1925	36	.059	14	.051	15	.060	7	.062

[a] Based upon a study of the annual reports of specified numbers of sample corporations in this field.
[b] No information given in corporation reports available.

of the period covered, the records for coal mining corporations reveal enormous fluctuations in the rates paid, varying from less than 2 per cent in 1909 to more than 23 per cent in 1913. These fluctuations were caused, not by changes in the nominal rates on preferred stock, but by the fact that, in some years, no dividends on preferred were paid by some of the companies having issues of that type, while, in other years, large amounts of back dividends were disbursed to the holders of preferred stock. Since 1918, the preferred stock of coal mining corporations seems to have attained an investment status, and the amplitude of the fluctuations has diminished.

TABLE CII

RATIO OF THE TOTAL DIVIDENDS ACTUALLY PAID ON THE PREFERRED STOCK TO THE TOTAL PAR VALUE OF THAT CLASS OF STOCK OUTSTANDING IN A SAMPLE GROUP OF CORPORATIONS IN EACH OF THE SPECIFIED BRANCHES OF MINING[a]

Year	All Mines, Quarries and Oil Wells		Coal		Oil and Gas		Metals	
	Number of Corporations	Dividend Rate Paid	Number of Corporations	Dividend Rate Paid	Number of Corporations	Dividend Rate Paid	Number of Corporations	Dividend Rate Paid
1909	**4**	**.055**	3	.019	b	b	1	.070
1910	**5**	**.056**	3	.019	b	b	2	.069
1911	**6**	**.070**[c]	4	.080[c]	b	b	2	.067
1912	**7**	**.067**[c]	4	.100[c]	b	b	3	.055
1913	**9**	**.093**[c]	5	.232[c]	1	.070	3	.055
1914	**10**	**.061**	6	.069[c]	1	.070	3	.048
1915	**10**	**.046**	6	.057	1	.047	3	.038
1916	**11**	**.061**	7	.094[c]	1	.040	3	.042
1917	**11**	**.078**[c]	7	.119[c]	1	.040	3	.065
1918	**17**	**.063**	9	.056	5	.072	3	.067
1919	**20**	**.058**	10	.055	7	.067	3	.042
1920	**22**	**.060**	11	.056	8	.070	3	.042
1921	**22**	**.058**	11	.054	8	.067	3	.038
1922	**22**	**.048**	11	.055	8	.046	3	.034
1923	**22**	**.053**	11	.050	8	.059	3	.033
1924	**20**	**.054**	10	.054	7	.058	3	.033
1925	**19**	**.048**	11	.045	6	.051	2	.047

[a] Based upon a study of the annual reports of the specified numbers of sample corporations in this field.
[b] No information given in corporation reports available.
[c] Large dividend rates due to payments of back dividends by various companies and to nominal par value of $1 per share for the preferred stock of the Island Creek Coal Company.

In the case of corporations producing oil and gas, information for years earlier than 1918 is too scanty to be significant. In general, preferred dividends in this field have tended downward since 1918. The drop in 1922 represents the effect of the passing of dividends by some of the companies.

Data have been secured from too few metal mining concerns to assure us that the figures are indicative of conditions in that industry as a whole. What data there are show that the ratio of dividends actually paid on preferred stock to the par value of the same has, in general, been low, though, in this regard, the years 1909 to 1911 and 1917 and 1918 were well above normal. In these years, the mining concerns studied came nearer to meeting their obligations on preferred stock than they did in any other years of the period.

Output and Earnings of Coal Mine Employees.

Estimates of the average annual earnings per employee attached to the bituminous and anthracite coal industries and the average output per employee are presented in Table CIII and in Chart 49.

These figures make it clear that the output of bituminous coal per employee had a distinct upward trend between 1909 and 1918, then fell off until 1922, and thereafter increased steadily, the figure for 1926 being the highest recorded for this industry. It should be clearly understood that the figures on production, as here given, show the output per employee attached to the industry and not the output per employee actually at work. In times of industrial depression, the demand for coal slackens, but most of the employees do not leave the industry, hence the output per employee falls greatly in such periods.

Changes in the output per employee in the anthracite field paralleled rather closely the changes in the output per employee in the bituminous industry during the period 1909 to 1923 inclusive. There was the same upward trend between 1909 and 1918, the same decline between 1918 and 1922, and a similar recovery in 1923. Since 1923, anthracite per capita output has been declining while the output per employee in bituminous fields has been rising.

The output per employee is, of course, affected by the amount of surplus labor attached to the industry, the average hours worked per year per laborer, the relative size of the office force, the introduction of new machinery, the existence of strikes, and changes in the difficulty of mining coal caused by increases in the average depth of mines and the exhaustion of the most easily mined beds.

Earnings per employee likewise represent the average earnings for all employees attached to the industry, whether actually at work or not. As might be expected, the average calculated on this basis rises in years of prosperity and falls in periods of depression. The trend of earnings per employee in the bituminous industry was upward between 1909 and 1923. Thereafter the evidence indicates

TABLE CIII

PRODUCTION AND EARNINGS PER EMPLOYEE IN THE COAL INDUSTRY

Year	Bituminous Mines					Anthracite Mines				
	Total Pay[a] (Millions)	Short Tons Mined[b] (Millions)	Employees Attached to Industry[a] (Thousands)	Average Annual Earnings Per Employee	Tons Per Employee	Total Pay[a] (Millions)	Short Tons Mined[b] (Millions)	Employees Attached to Industry[a] (Thousands)	Average Annual Earnings Per Employee	Tons Per Employee
1909	$ 291	380	557	$ 522	682	$ 92	81	179	$ 515	452
1910	335	417	577	581	723	98	84	174	560	485
1911	332	406	574	578	707	104	90	178	584	508
1912	365	450	567	644	794	102	84	186	550	453
1913	406	478	589	690	812	109	92	182	598	502
1914	362	423	599	604	706	107	91	187	570	486
1915	352	443	596	590	742	114	89	184	619	484
1916	429	503	573	749	877	131	88	167	785	524
1917	572	552	613	933	900	141	100	156	900	638
1918	755	579	629	1,201	921	188	99	151	1,241	653
1919	723	466	641	1,129	727	212	88	161	1,319	548
1920	1,042	569	658	1,585	865	241	90	154	1,565	582
1921	757	416	681	1,111	610	288	90	177	1,626	511
1922	737	422	707	1,042	597	160	55	173	927	317
1923	1,055	565	714	1,476	790	281	93	172	1,639	544
1924	711	484	633	1,124	765	303	88	173	1,754	508
1925	748	520	602	1,243	864	217	62	169	1,288	366
1926	779	573	604	1,290	949	297*	84	178	1,672*	475
1927	716*	520*	607*	1,180*	856*	300*	81*	179	1,674*	450*

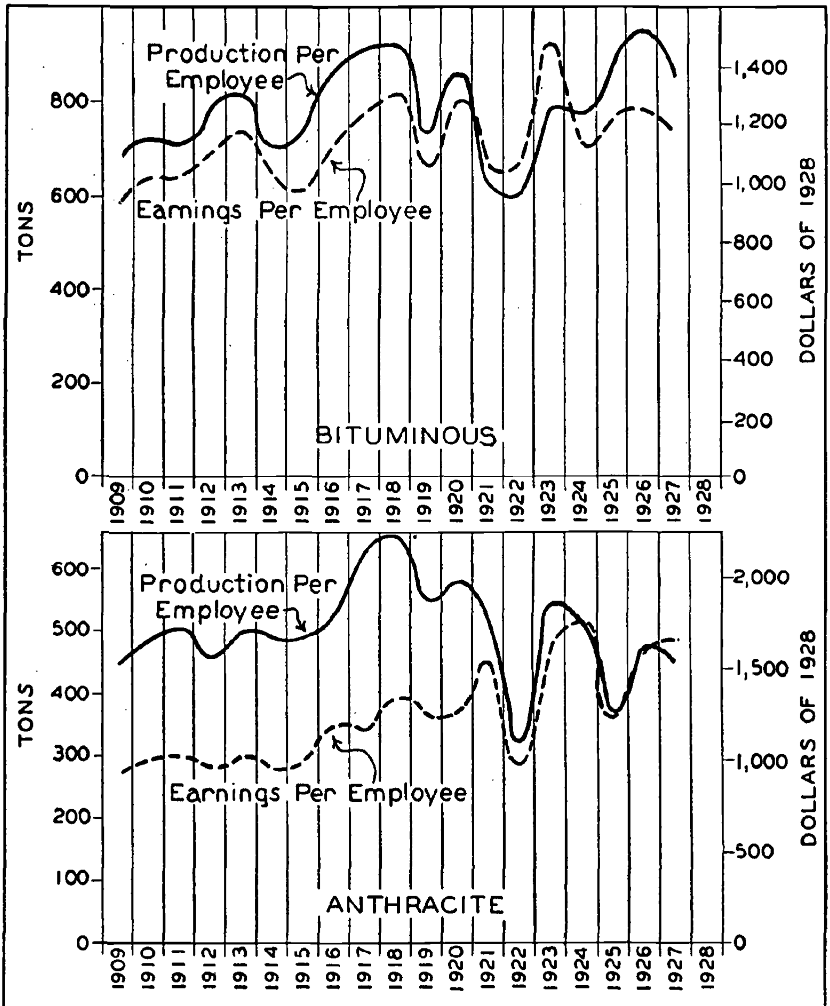
[a] Based upon *Census of Mines and Quarries* and upon reports of the U. S. Bureau of Mines, the U.S. Geological Survey and the Pennsylvania Department of Internal Affairs.
[b] Taken from various Statistical Abstracts.
* Preliminary Estimate.

that the trend in that field was slightly downward, the cyclical peak in 1926 being much lower than that of 1923.

Average earnings per employee in the anthracite mines have had an upward trend somewhat steeper than that of earnings in the bituminous field. Just as in the case of the bituminous mines, the earnings of anthracite miners show some tendency to decline after 1923 but the evidence of any downward inclination of the trend in this field is much less conclusive than in the bituminous industry. The figures in Table CIII for average annual earnings

CHART 49

PRODUCTION AND EARNINGS PER EMPLOYEE IN THE COAL INDUSTRY[a]



[a] For data, see Table CIII and text.

per employee are expressed in terms of current dollars and cannot legitimately be compared for different years. The figures plotted in Chart 49 have all been reduced to dollars having purchasing power equal to that which they possessed in 1928, and thus show the respective abilities of the persons attached to the coal mining industry to buy direct or consumers' goods at the various dates. The averages for the various years are as follows:

Calendar Year	Average Earnings in 1928 Dollars of Employees Attached to the Industry	
	Bituminous Mines	Anthracite Mines
1909	943	930
1910	1,023	986
1911	1,017	1,028
1912	1,118	955
1913	1,177	1,020
1914	1,013	956
1915	973	1,020
1916	1,145	1,200
1917	1,221	1,178
1918	1,303	1,347
1919	1,052	1,229
1920	1,295	1,279
1921	1,053	1,542
1922	1,061	944
1923	1,475	1,638
1924	1,124	1,754
1925	1,216	1,260
1926	1,254	1,625
1927	1,169	1,659

Tendency Toward Centralized Ownership of Mineral Properties.

Is the control of the mining industry drifting into the hands of a few giant corporations? To throw light on this question, a study has been made of the net income available for dividends, the amount of dividends paid, and the amount of interest paid on the funded debt by the 20 mining corporations which, in each particular year, were the largest for which reports could be secured. These

TABLE CIV

BOND INTEREST, DIVIDEND PAYMENTS, AND REPORTED NET INCOME OF 20 GIANT MINING CORPORATIONS[a]

(THOUSANDS OF DOLLARS)

Year	Reported Income Available for Dividends	Dividends Paid	Interest Paid on Funded Debt	Total Interest and Dividends Paid
1909	$ 18,430	$ 14,906	$ 3,699	$ 18,605
1910	24,732	22,074	4,878	26,952
1911	31,994	25,443	6,021	31,464
1912	43,685	23,521	6,073	29,594
1913	59,018	35,928	6,539	42,467
1914	32,811	26,790	6,777	33,567
1915	55,542	27,208	7,913	35,121
1916	161,177	75,193	7,227	82,420
1917	133,739	88,092	6,763	94,855
1918	118,326	77,727	11,361	89,088
1919	105,312	59,749	12,631	72,380
1920	151,770	58,393	18,198	76,591
1921	30,185	47,237	24,629	71,866
1922	107,178	57,077	24,178	81,255
1923	138,380	110,348	34,375	144,723
1924	140,098	98,683	33,792	132,475
1925	227,638	109,744	32,363	142,107
1926	218,711	111,190	29,925	141,115

[a] Based upon the annual reports of the 20 corporations in this field which, in each year, had the largest market value of all the sample corporations for which reports were secured.

basic figures appear in Table CIV. All three items were very much larger in the latter half of the period than they were at the beginning of the period. The net income reported available for dividends was more than 10 times as great in 1926 as in 1909. The aggregate of dividends paid was 7 times as large in 1926 as in 1909, while, during the same period, payments of interest on funded debt were multiplied by 8. A study of the corresponding items for the mining industry as a whole will show no such remarkable increase.

Table CV and the left hand section of Chart 50 serve to bring out the relationship between these items for the 20 giant corporations and the industry as a whole. The percentage of the total interest on the funded debt of the entire mining industry which was paid out by the 20 leading corporations had a somewhat hori-

TABLE CV

PERCENTAGES OF THE NET INCOME AND DISBURSEMENTS TO CAPITAL FOR ALL MINING CORPORATIONS COMPRISED IN THE CORRESPONDING ITEMS REPRESENTING 20 GIANT CORPORATIONS[a]

Year	Reported Income Available for Dividends[b]	Dividends Paid[c]	Interest Paid on Funded Debt[d]	Total Interest and Dividends Paid
1909	31.14	9.05	23.57	10.32
1910	20.52	11.89	29.12	13.32
1911	17.79	15.66	32.99	17.41
1912	13.10	12.14	30.77	13.86
1913	14.53	13.50	30.51	14.76
1914	13.44	13.73	29.15	15.38
1915	19.35	14.14	31.26	16.13
1916	22.14	14.57	26.58	15.17
1917	15.12	14.19	23.05	14.59
1918	23.84	14.32	35.23	15.49
1919	41.85	18.55	35.58	20.24
1920	28.88	24.66	44.92	27.62
1921	[e]	15.66	52.31	20.61
1922	1,791.97[f]	25.59	46.62	29.56
1923	[e]	36.71	61.87	40.64
1924	[e]	38.65	56.12	41.99
1925	93.43	32.75	48.85	35.40

[a] The percentages in this table are obtained by dividing each sum for the 20 corporations which had the largest market value of all the sample corporations for which reports were secured, by the corresponding total for all mining corporations, and multiplying the quotient by 100.

[b] Derived from figures presented in Tables LXXXVI and CIV.

[c] Derived from figures presented in Tables XXXIV, XXXV, and CIV.

[d] Derived from figures presented in Tables XXXVI and CIV.

[e] Deficit for year, hence ratio, if computed, would be meaningless.

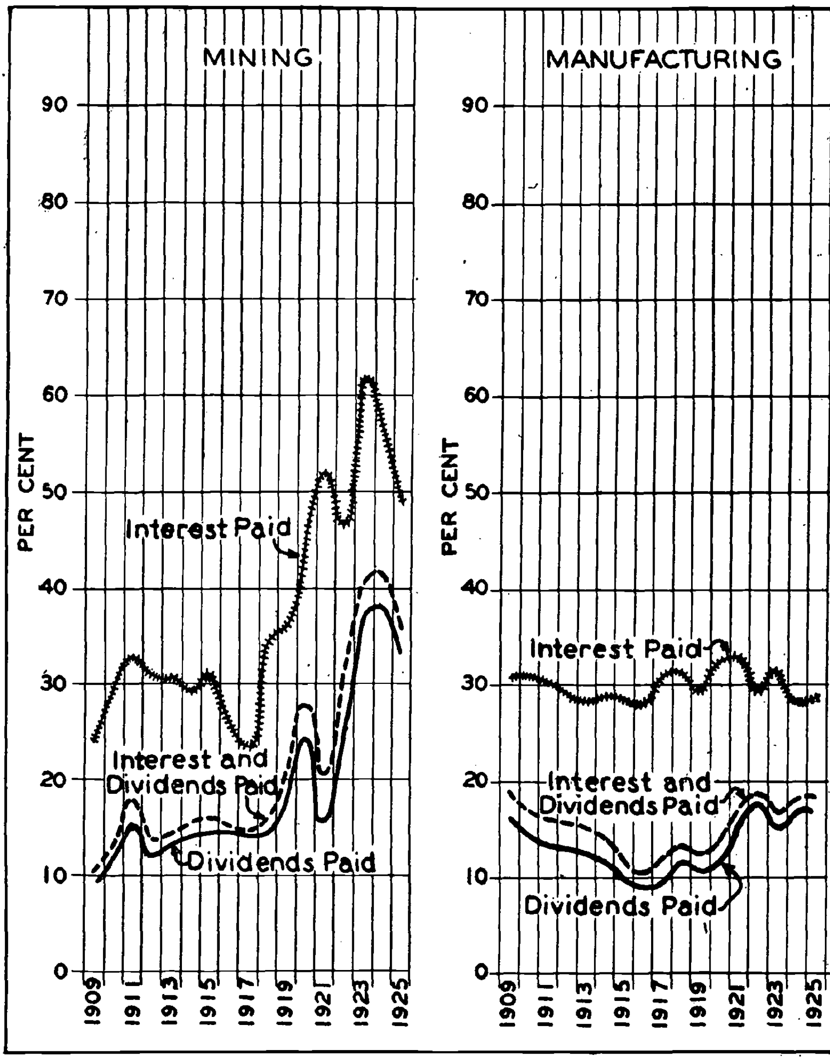
[f] This unusually high percentage is due to the fact that the 20 giant corporations had an income of $107,178,000 as compared with a figure of $5,981,000 for the entire industry.

zontal trend between 1909 and 1917, but, since that date, has risen very rapidly. The tendency at the beginning of the period appears to have been for the 20 leading corporations to pay about one-fourth of the aggregate interest, while, at the close of the period, they were paying approximately one-half.

There has been an upward trend in dividends paid by the 20 leading corporations throughout the entire period, but, just as in the case of interest payments, the upward slope of the trend in-

CHART 50

PERCENTAGES OF THE NET INCOME AND DISBURSEMENTS TO CAPITAL FOR ALL MINING CORPORATIONS COMPRISED IN THE CORRESPONDING ITEMS REPRESENTING 20 GIANT CORPORATIONS[a]



[a] For data, see Tables CV and CVII.

creased greatly after the close of the World War. As a matter of fact, the relative increase in the volume of dividends has been even greater than in the case of interest payments, for, in 1909, the 20 leading corporations were paying but one-tenth of the entire dividend bill of the mining industry, while, after 1923, the tendency has been for them to pay more than one-third of the total. The percentages representing ratios of the net income of the 20 giant corporations to the net income of the mining industry as a whole fluctuate so much that it is difficult to draw conclusions therefrom, but there appears to be a trend which is perhaps even more steeply upward than in interest and dividend payments.

All the available evidence points to the conclusion that the mining industry is rapidly drifting toward domination by a few great corporations.