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CHAPTER 25

MINING AND ITS MINOR GROUPS

1. THE MINING GROUP AS A WHOLE

IN the terminology which we have been employing, the industrial division Mining may be regarded as one major group. Included in it are all types of extractive operations: coal mining, oil drilling and gas producing; ferrous and non-ferrous metal mining, including gold and silver; the quarrying of stone, salt, clay, sand and gravel, etc.

As previously pointed out, some of the Mining minor groups are not such representative samples of the extractive activities carried on by these industries as is the case with the various Manufacturing and Trading groups discussed in preceding chapters.¹ It is also to be observed that not only are the samples rather small in several instances, but that neither the investment nor net income figures are to be taken as possessing as high a degree of validity as in the case of the Manufacturing or Trading samples.² The qualifications which attach to most accounting appraisals—which in the nature of things are never more than close estimates—apply with peculiar cogency to figures for the Mining industry. Investment, in the case of a mine, means the cost of acquisition and development, rather than of construction in the ordinary sense of original cost or 'prudent investment'. As carried on the books, it may even involve a 'discovery value'—the engineers' appraisal of the extent and market value of veins or deposits as yet unworked. The computation of net income is likewise in some instances beclouded—so far as a valid comparison with Manufacturing or Trade incomes is concerned—because of the inclusion of depletion charges as a large proportion of total deduction from revenues. To what extent depletion charges represent deductions accurately based upon the exhaustion of an original investment, to what degree they represent, beyond this, an attempt to show

¹ See Ch. 8, sec. 4.

² As to the general reliability of the two latter, see Ch. 44 and 45.

lower net earnings figures for one reason or another—these are questions not easily solved. Particularly in the case of gas and oil wells are net income figures to be accepted only provisionally for any comparative purposes. The fact that the income tax law, in its several revisions, has changed the provisions affecting the charging of depletion³ undoubtedly has influenced the accounting practices of certain mining enterprises; and in any minor industrial groups for which the samples are as small as those discussed in this chapter, such variations in accounting practice on the part of even a few corporations might well affect the comparability of the income series over a time period.

With these preliminary remarks of warning, the tabular data for Mining may be presented. In computing the return on sales, however, data for one of the six minor groups, Gas and Oil Wells, are omitted from the total Mining figures because of incompleteness in the sample (see section 2 below). Data for the return on investment, however, include all six minor groups.

The return on sales declines from 13 per cent in 1920 to 3 per cent in 1921; then increases to 8 per cent in 1922. Although temporary declines occur in 1924 and 1927, the trend is upward during the years from 1922 to 1928, the figure standing at 16 per cent at the end of the period.

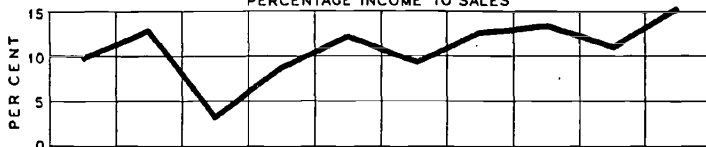
Upon investment, much lower earnings are the rule. The return declines from 6 per cent in 1920 to barely 1 per cent in 1921; then recovers to 5 per cent by 1923. During the second half of the period,

³ For example, the Revenue Acts of 1919, 1921 and 1924 all provided for depletion charges based on either original cost, valuation as of March 1, 1913, or discovery value; but where discovery value was employed, the Act of 1921 limited the depletion charge to the amount of net income (reckoned before depletion). The Act of 1924, however, where discovery value was employed, limited the charge to 50 per cent of the net income. These provisions applied to all types of mining. But the Act of 1926 provided that, in the case of gas and oil wells, the depletion charged upon any valuation had to be limited to 27.5 per cent of the amount of sales volume and to 50 per cent of the net income. But whereas previous acts had permitted the annual depletion charges on any given mining property to accumulate only to the aggregate amount of the investment (cost, March 1913 value, or discovery value), the Act of 1926 imposed no limit whatever upon the accumulation of charges in the case of gas and oil wells, i.e., the entire cost of a gas or oil property could be written off and depletion could still be charged on the same property in subsequent years, subject only to the 27.5 per cent of current sales and 50 per cent of current net income limits above mentioned.

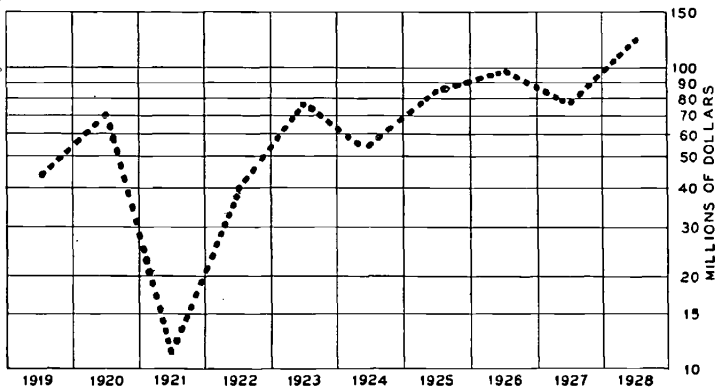
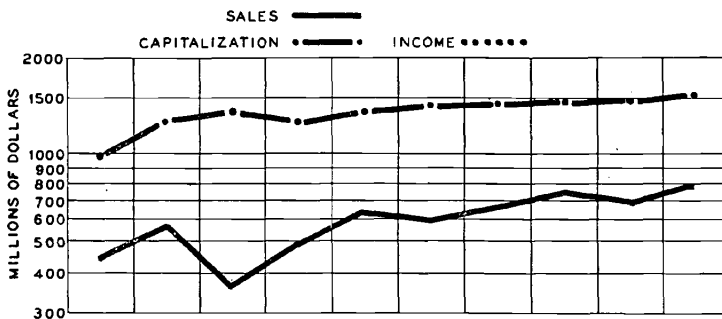
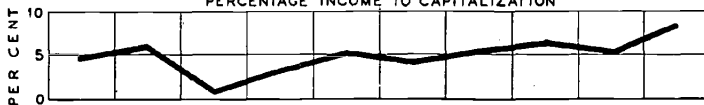
CHART 57
IDENTICAL CORPORATIONS SERIES, 1919-28

MAJOR GROUP 15: MINING

PERCENTAGE INCOME TO SALES



PERCENTAGE INCOME TO CAPITALIZATION



it runs between 4 and 8 per cent, the latter figure prevailing in 1928.

Sales⁴ show a generally rising trend, expanding from 435 million in 1919 to 783 million dollars in 1928. Investment grows at a somewhat slower rate, increasing from 972 million dollars in 1919 to 1,539 million dollars in 1928. Net income fluctuates greatly during the first half of the period, but shows an increasing trend thereafter. Between 1922 and 1928 it increases from 40 million to 125 million dollars.

2. MINOR GROUPS IN MINING

The major group Mining is divided into six minor groups: Bituminous Coal; Gas and Oil Wells; Stone Quarrying; Clay, Sand and Gravel; Metals; Miscellaneous Mining. The number of corporations in each group and their average size are shown in Table 58. The groups may be listed and some of them described briefly:

Bituminous Coal

Gas and Oil Wells: Data for the return on sales cannot be shown for this group. The original *Source-Book* states in connection with sales figures for the group in question that "figures for minor group No. 101 contain only eight of the eleven corporations belonging to this group because of data lacking for the other three corporations" (p. 152).

Stone Quarrying: Includes the extraction of granite, gypsum, limestone, marble and slate, and the various processes of rock crushing.

Clay, Sand and Gravel

Metals: Basic ferrous, non-ferrous, as well as the precious metals are included: iron, copper, lead, zinc, iridium, platinum, silver and gold and complex ores.

Miscellaneous Mining: Includes a diversity of mining activities, but no metals. Principal components are anthracite coal and salt.

3. EARNINGS OF INDIVIDUAL CORPORATIONS: MINING

We may now inquire into the variation in earnings rates between individual corporations engaged in Mining, limiting our examination to the available data for the major group as a whole.

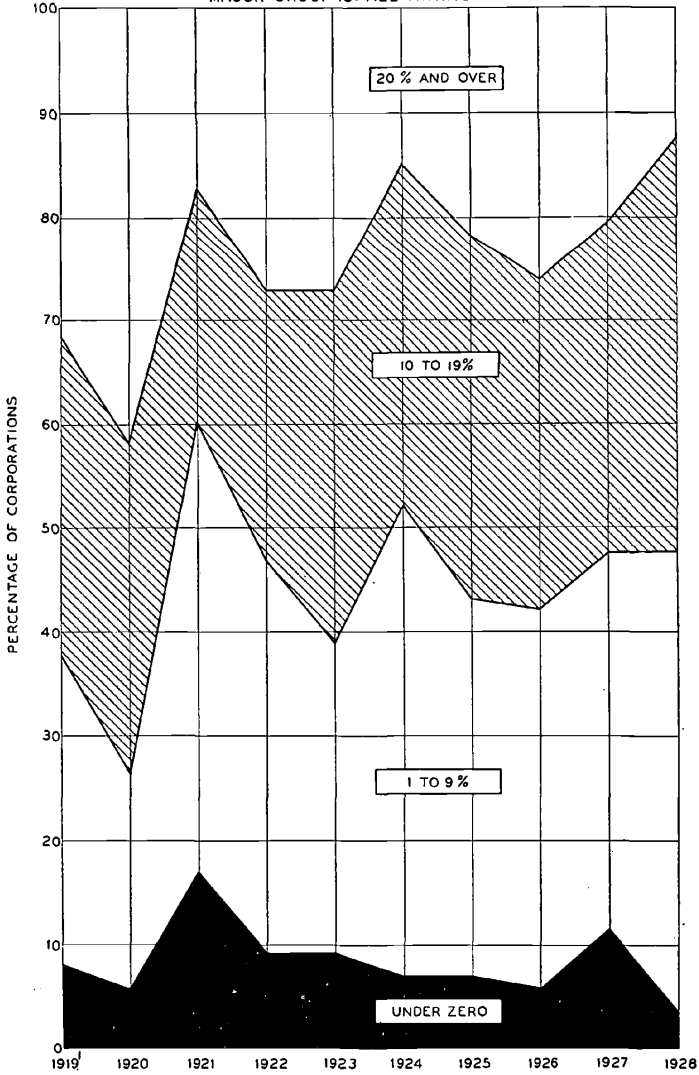
In 1919, the 88 corporations of the Mining group earned an average return of 4.5 per cent upon their investment. Four-fifths of the corporations, however, earned more than this average figure,

⁴The absolute sales, investment and income figures given in this paragraph omit the Gas and Oil Wells group, for the reason given in sec. 2 below.

CHART 58

FREQUENCY DISTRIBUTION OF EARNINGS RATES,
INDIVIDUAL COMPANIES (IDENTICAL CORPORATIONS SERIES)

MAJOR GROUP 15: ALL MINING



while half earned over 13 per cent. The upper quarter earned over 26 per cent, while the lower quarter earned under 7 per cent. At the same time 8 per cent recorded deficits.

In 1920, the general average return was 6 per cent. Again, about four-fifths of these corporations earned more than the average return; and half earned over 18 per cent. The upper quarter earned in excess of 35 per cent, while the lower quarter all earned under 9 per cent.

The depression year 1921 brought the general average return to less than 1 per cent upon investment. Once more, however, four-fifths of the corporations earned more than the average figure. Half earned more than 8 per cent, while the upper quarter earned over 16 per cent. The lower quarter earned under 2 per cent, and a few over one-sixth had deficits.

A slight recovery brought the general average to 3 per cent in 1922. Still four-fifths of the corporations earned more than the average figure. Half earned over 12 per cent and the upper quarter earned over 22 per cent. The lowest quarter earned under 5 per cent, and 9 per cent had deficits.

Between 1923 and 1928, the number of corporations in the higher and lower brackets fluctuated greatly. Chart 58 shows this distribution by broad classes of return. At the end of the period in 1928, the distribution was such that only about 13 per cent of the corporations earned over 20 per cent. Approximately 40 per cent earned from 10 to 19 per cent, while about 45 per cent earned from 1 to 9 per cent. About 3 per cent had deficits.

TABLE 58

MINING GROUPS, LARGE IDENTICAL CORPORATIONS SERIES

(A) SIZE AND CHARACTER OF SAMPLE

	NUMBER OF CORPORATIONS	AVERAGE CAPITAL PER CORPORATION ¹ (millions of dollars)	
		ARITHMETIC MEAN	MEDIAN
<i>Major group</i>			
15 Mining	88	22.15	3.50
<i>Minor group</i>			
100 Bituminous coal	33	6.60	
101 Gas and oil wells	11	12.93	
102 Stone quarrying	9	6.66	
103 Clay, sand and gravel	9	4.91	
104 Metals	15	87.67	
105 Miscellaneous mining	11	15.45	

¹ Total capital (i.e., includes funded debt) as of December 31, 1928.

MINING GROUPS

TABLE 58 (continued)

(B) PERCENTAGE INCOME TO SALES

	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928	1919-28 ¹
<i>Major group</i>											
15 Mining ²	9.9	12.6	3.2	8.2	12.0	9.4	12.6	13.0	11.3	15.9	11.4
<i>Minor group</i>											
100 Bituminous coal	14.8	25.4	14.5	18.0	15.5	8.2	11.4	13.4	10.8	10.2	14.8
101 ³											
102 Stone quarrying	18.1	15.7	10.0	18.9	20.5	20.0	23.2	21.7	21.8	15.9	18.9
103 Clay, sand and gravel	20.0	20.0	18.9	31.0	23.6	24.6	32.7	31.7	32.9	26.3	27.2
104 Metals	4.1	4.1	-15.2	1.9	7.7	6.9	11.2	10.5	9.0	16.7	8.0
105 Miscellaneous mining	21.9	20.1	18.8	18.6	22.8	16.4	14.5	20.6	15.6	14.2	11.4

(C) PERCENTAGE INCOME TO CAPITALIZATION

<i>Major group</i>											
15 Mining	4.5	6.0	0.9	2.9	5.1	3.8	5.4	6.4	5.1	7.9	4.9
<i>Minor group</i>											
100 Bituminous coal	10.5	23.5	9.0	8.1	9.0	3.6	5.2	7.7	5.4	4.5	8.2
101 Gas and oil wells	5.0	10.9	1.1	-1.1	-1.8	1.3	2.0	3.9	3.0	5.8	2.9
102 Stone quarrying	13.2	12.9	5.9	11.0	13.2	12.2	14.5	14.3	15.7	10.8	12.6
103 Clay, sand and gravel	9.3	10.0	8.1	14.1	13.2	11.9	16.9	18.4	18.1	12.5	13.8
104 Metals	1.4	1.3	-2.3	0.6	3.1	2.5	4.7	4.9	3.9	8.5	3.0
105 Miscellaneous mining	16.8	16.9	13.0	17.6	20.8	14.2	10.9	14.6	10.0	7.9	13.8

¹Ten-year aggregate.

²In this calculation, major group 15 contains data for only 77 corporations instead of 88, minor group 101 being entirely omitted (see following note).

³Sales figures for minor group 101 contains only 8 of the 11 corporations belonging to this group, because of lack of data for the other three corporations, therefore no percentages have been worked.

TABLE 58 (continued)

MINING GROUPS, LARGE IDENTICAL CORPORATIONS SERIES

(D) PERCENTAGE PROFIT TO TOTAL CAPITAL

	1924	1925	1926	1927	1928
<i>Major group</i>					
15 Mining	3.9	5.3	6.2	5.1	7.5
<i>Minor group</i>					
100 Bituminous coal	3.8	5.2	7.5	5.4	4.5
101 Gas and oil wells	1.3	2.2	4.0	3.1	5.7
102 Stone quarrying	11.7	14.0	13.4	14.3	9.8
103 Clay, sand and gravel	11.6	16.7	18.2	17.6	11.8
104 Metals	2.9	4.7	4.9	4.1	7.9
105 Miscellaneous mining	11.6	9.4	12.8	9.1	7.4

MINING GROUPS

[335]

TABLE 58 (continued)

(E) FREQUENCY DISTRIBUTIONS OF PERCENTAGES OF TOTAL NET INCOME TO CAPITALIZATION, INDIVIDUAL CORPORATIONS, 1919-23. MAJOR GROUP 15: MINING

PERCENTAGE INCOME TO CAPITALIZATION	1919			1920			1921			1922			1923		
	ACCUMULATED BY SUCCESSIVE CLASSES EACH CLASS	PERCENTAGE IN AGE IN EACH CLASS	PERCENTAGE BY SUCCESSIVE CLASSES EACH CLASS	ACCUMULATED BY SUCCESSIVE CLASSES EACH CLASS	PERCENTAGE IN AGE IN EACH CLASS	PERCENTAGE BY SUCCESSIVE CLASSES EACH CLASS	ACCUMULATED BY SUCCESSIVE CLASSES EACH CLASS	PERCENTAGE IN AGE IN EACH CLASS	PERCENTAGE BY SUCCESSIVE CLASSES EACH CLASS	ACCUMULATED BY SUCCESSIVE CLASSES EACH CLASS	PERCENTAGE IN AGE IN EACH CLASS	PERCENTAGE BY SUCCESSIVE CLASSES EACH CLASS	ACCUMULATED BY SUCCESSIVE CLASSES EACH CLASS	PERCENTAGE IN AGE IN EACH CLASS	PERCENTAGE BY SUCCESSIVE CLASSES EACH CLASS
Under zero	8.0	5.7	8.0	5.7	5.7	17.0	17.0	17.0	9.1	9.1	9.1	9.1	9.1	9.1	9.1
Zero to 4	11.4	11.4	19.4	11.4	17.1	21.6	38.6	38.6	14.8	23.9	11.4	20.5	11.4	20.5	20.5
5 to 9	18.2	9.1	37.6	26.2	42.1	21.6	60.2	60.2	22.7	46.6	18.2	38.7	18.2	38.7	38.7
10 to 14	20.4	15.9	58.0	15.9	58.0	12.5	72.7	72.7	8.0	54.6	21.6	60.3	21.6	60.3	60.3
15 to 19	10.2	15.9	68.2	15.9	67.1	10.2	82.9	82.9	18.2	72.8	12.5	72.8	12.5	72.8	72.8
20 to 24	5.7	3.4	73.9	3.4	70.5	9.1	92.0	92.0	8.0	80.8	6.8	79.6	6.8	79.6	79.6
25 to 29	9.1	17.0	100.0	29.5	100.0	5.7	100.0	100.0	13.5	100.0	5.7	85.3	5.7	85.3	85.3
30 and over	17.0	29.5	100.0	29.5	100.0	5.7	100.0	100.0	13.5	100.0	14.7	100.0	14.7	100.0	100.0

(F) FREQUENCY DISTRIBUTIONS OF PERCENTAGES OF TOTAL PROFIT TO TOTAL CAPITAL, INDIVIDUAL CORPORATIONS, 1924-28. MAJOR GROUP 15: MINING

PERCENTAGE INCOME TO CAPITALIZATION	1924			1925			1926			1927			1928		
	ACCUMULATED BY SUCCESSIVE CLASSES EACH CLASS	PERCENTAGE IN AGE IN EACH CLASS	PERCENTAGE BY SUCCESSIVE CLASSES EACH CLASS	ACCUMULATED BY SUCCESSIVE CLASSES EACH CLASS	PERCENTAGE IN AGE IN EACH CLASS	PERCENTAGE BY SUCCESSIVE CLASSES EACH CLASS	ACCUMULATED BY SUCCESSIVE CLASSES EACH CLASS	PERCENTAGE IN AGE IN EACH CLASS	PERCENTAGE BY SUCCESSIVE CLASSES EACH CLASS	ACCUMULATED BY SUCCESSIVE CLASSES EACH CLASS	PERCENTAGE IN AGE IN EACH CLASS	PERCENTAGE BY SUCCESSIVE CLASSES EACH CLASS	ACCUMULATED BY SUCCESSIVE CLASSES EACH CLASS	PERCENTAGE IN AGE IN EACH CLASS	PERCENTAGE BY SUCCESSIVE CLASSES EACH CLASS
Under zero	6.8	6.8	6.8	6.8	6.8	5.7	5.7	5.7	11.4	11.4	3.4	3.4	11.4	11.4	3.4
Zero to 4	18.2	25.0	13.6	13.6	20.4	14.8	20.5	20.5	13.6	25.0	22.7	26.1	13.6	25.0	26.1
5 to 9	27.3	52.3	22.7	22.7	43.1	21.6	42.1	42.1	22.7	47.7	21.6	47.7	22.7	47.7	47.7

TABLE 58 (continued)

(F) FREQUENCY DISTRIBUTIONS OF PERCENTAGES OF TOTAL PROFIT TO TOTAL CAPITAL, INDIVIDUAL CORPORATIONS, 1924-28. MAJOR GROUP 15: MINING

PERCENTAGE PROFIT TO TOTAL CAPITAL	1924		1925		1926		1927		1928	
	ACCUMULATED BY SUCCESSIVE CLASSES	PERCENT- AGE IN EACH CLASS	ACCUMULATED BY SUCCESSIVE CLASSES	PERCENT- AGE IN EACH CLASS	ACCUMULATED BY SUCCESSIVE CLASSES	PERCENT- AGE IN EACH CLASS	ACCUMULATED BY SUCCESSIVE CLASSES	PERCENT- AGE IN EACH CLASS	ACCUMULATED BY SUCCESSIVE CLASSES	PERCENT- AGE IN EACH CLASS
10 to 14	19.3	21.6	64.7	18.2	60.3	15.9	63.6	21.6	69.3	
15 to 19	13.6	13.6	78.3	13.6	73.9	15.9	79.5	18.2	87.5	
20 to 24	9.1	10.2	88.5	10.2	84.1	8.0	87.5	6.8	94.3	
25 to 29	4.6	2.3	90.8	10.2	94.3	6.8	94.3	4.6	98.9	
30 and over	1.1	9.2	100.0	5.7	100.0	5.7	100.0	1.1	100.0	