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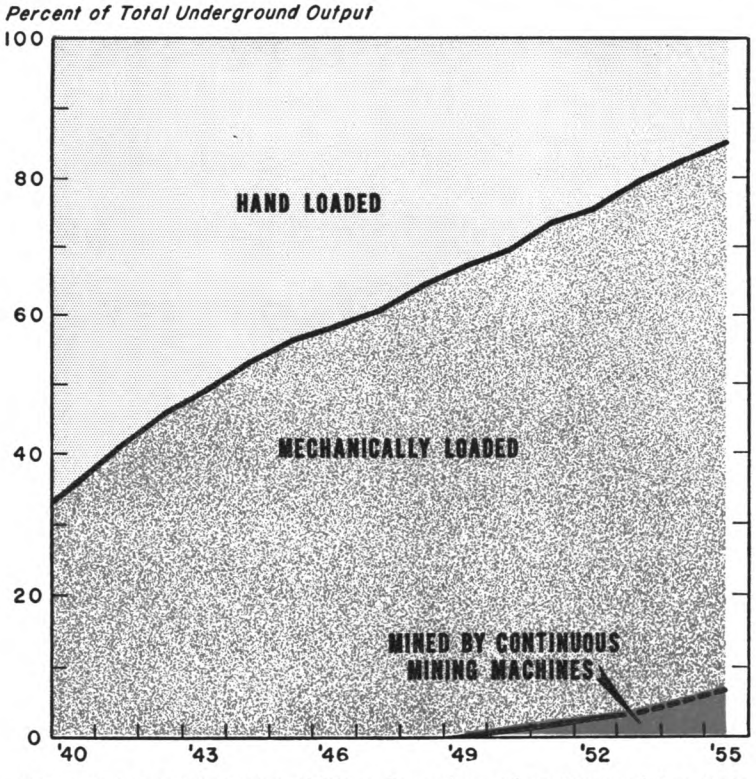
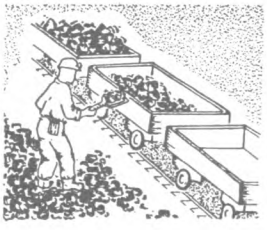
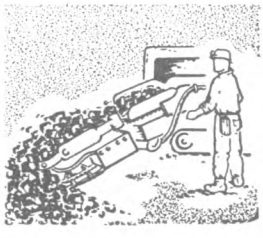
IN THIS ISSUE

LOADING METHODS AT UNDERGROUND BITUMINOUS COAL MINES





Mechanical loading has grown rapidly in importance at deep mines, helping to make coal mining a highly mechanized operation today.



Source of data: U. S. Bureau of Mines. Our estimate of continuous mining, 1954 and 1955.

Changing Fortunes of Bituminous Coal

(2) New Techniques Aid the Industry's Recovery

EDITOR'S NOTE: This is the second of a series of articles about bituminous coal. The first, entitled "The Comeback of Coal," appeared in the February 1956 issue of the *Review*. A third article will deal with effects of changes in the industry upon employment, with special reference to areas within the Fourth Federal Reserve District. The final article will discuss the future of bituminous coal.

MECHANIZATION has become one of the bituminous coal industry's major weapons in its competitive struggle with oil and gas in the nation's fuel markets. In those markets where soft coal competes directly with oil and gas, it does so in terms of price. New machines and new techniques are being employed to get coal out of the ground, prepared for shipment, and to market faster, and, consequently, at less cost to the consumer.

One of the industry's major cost items is labor, which runs approximately two-thirds of soft coal recovery costs. New machines have been developed during the last decade which make it possible for the industry to more than double its labor productivity over present levels.

Another major cost item is transporting coal from the mine to the consumer. Here again, progress of a revolutionary nature has been made. Construction is now under way on a pipeline for moving coal between a mine near the Ohio River and a power plant east of Cleveland. A trend toward locating new power plants and electric-consuming industries on top of the coal mine has also emerged.

Technological progress has not solved all of the industry's problems, however. New machines and new techniques have increased the coal miner's productivity during the industry's postwar production slump, thus compounding the unemployment problem in mining communities. Progress is also expensive. Research and development costs, as well as the cost of new equipment, are out of the reach of the small operator. One result of the higher capital costs required to compete in today's coal market has been the combination of coal companies through mergers.

There are two principal methods of mining bituminous coal: strip, or open pit, mining; and, underground, or deep, mining. A third, but as yet relatively unimportant, method of coal recovery developed during the past ten years is high-wall auger mining.

The method used to recover coal depends upon the nature and thickness of the earth and rock strata covering the coal and upon the thickness of the coal bed itself. The soft coal being mined today lies in seams of widely variable thickness, ranging from less than 2 feet to more than 10 feet. Some coal beds are mined today after removing only a few feet of earth from over the coal. Other seams are being worked 700 to 800 feet underground.

Strip Mining

Where the coal bed lies within 50 to 60 feet of the surface, open pit mining is usually the most economical method of recovery. Mining by stripping involves two basic steps: removing the overburden (soil and rock) covering the coal, and, loading the exposed coal into trucks for haulage to the tipple.

The overburden is stripped away from the surface of the coal bed by huge draglines or power shovels. In many instances, drilling and blasting is necessary to loosen the overburden

so that the shovels or draglines can bite into the earth. The bucket capacity of these large earth movers ranged up to 50 cubic yards until early this year, when a shovel with a 60-yard bucket began working in an eastern Ohio mine. The larger shovels can dig and dump in any direction and move along the cut on their own traction. The new shovel working in eastern Ohio is designed to clear overburden to a depth of 110 feet, while 100 feet is probably the practical maximum with other large shovels.

After the coal seam is laid bare, scrapers or mechanical sweepers move in to clean up the surface. Then the coal is loaded into trucks by small shovels similar to those used in construction work. Many of the trucks used to haul the coal from the pit to the tipple are specially built for stripping operations. The newest trucks are designed to haul 46 tons of payload up the steep grades and over the rough terrain encountered in open pit operations.

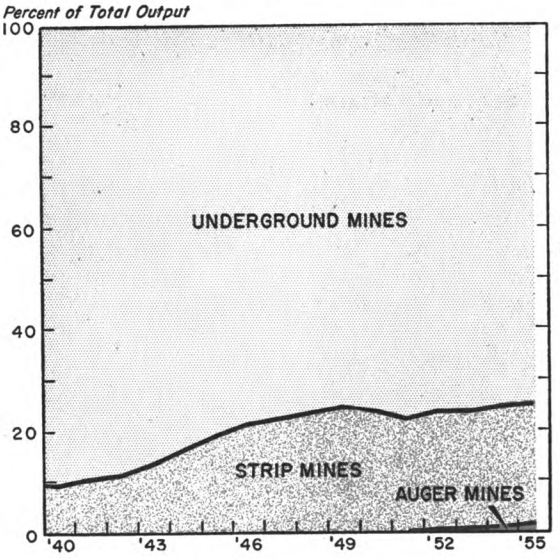
Strip mining has several advantages over underground mining. The main advantage of stripping—greater productivity—is a result of the use of so much large equipment above ground. Labor productivity in strip pits runs about three times that in underground workings.

Surface operations are safer than those underground since there are no dust, gas, or roof control problems. Also, 90 percent or more of the coal is recovered by open pit operations while the percentage recovered underground runs from 40 percent up to 80 percent in the most modern mines using the latest techniques.

F.o.b. mine prices for coal from open pits average more than one-fourth below f.o.b. mine prices for coal from underground mines, primarily because strip-mined coal is usually lower grade, i.e., it has a lower b.t.u. content than that recovered underground and may have a higher ash and sulphur content. However, after coal from strip mines and from deep mines is processed at a cleaning plant, there is little difference in quality.

Strip mining grew rapidly during the 'twenties and 'thirties and was further stimulated by World War II. During the past ten years, however, the relative importance of strip mining has leveled off. Currently, about 23 percent of the nation's coal output comes from strip pits.

PRODUCTION BY TYPE OF MINE



Source of data: U. S. Bureau of Mines.

Auger Mining

The newest form of mining is really an offshoot of open pit mining, and opportunities for its use are limited. Strip mines in hilly areas often encounter sections where the overburden becomes too thick to permit economical recovery of the coal. Where the last stripping cut was made, the side of the coal seam would be exposed, running in under the hill along what is known as the "high wall". Large augers of 16 to 52 inches in diameter have been developed to bore horizontally into the exposed coal seam. The loosened coal falls into a conveyor and is lifted into a truck. The huge augers are mounted on a movable frame and can bore up to 200 feet into the seam.

Labor productivity at auger mines is extremely high, running about 50 percent above the average at open pit mines and over 3½

times the underground average. However, only 1.3 percent of the soft coal produced in 1955 came from auger mines.

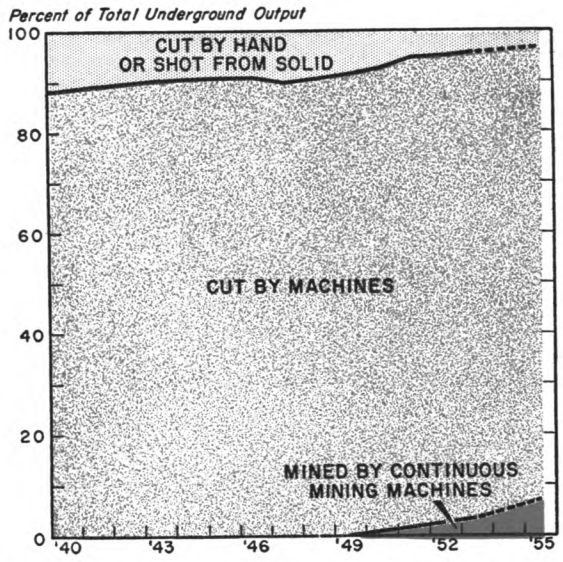
Underground Mining

Underground mines produce over three-fourths of the country's coal needs and will probably continue to do so in the foreseeable future, since the bulk of the coal reserves lies too deep for surface recovery using current techniques. Most of the revolutionary advances in mining techniques during the last decade have been made in underground operations.

Prior to 1948, the typical underground operation required four steps: cutting, drilling and blasting, loading, and hauling. In the most up-to-date mine of that time, each step was mechanized but a machine was needed for each job. The sequence of operations began with a cutting machine making a cut under the coal seam at the mine face. Next, power drills were used to drill shot holes for explosives. After the coal was blasted down, mobile loading machines moved in and loaded the coal into shuttle cars which transferred it into mine cars or onto conveyor belts for haulage to the shaft bottom or tipple.

In some mines, today, coal is cut by hand, drilled by hand, and/or loaded by hand. Sometimes the coal is blasted loose at the face without an undercut (shot from solid). Some mines, mostly the very small ones, use mules to haul the coal underground. In other words, the mechanized mining sequence outlined in the preceding paragraph, while probably typical of most large mines, does not tell the whole story. However, over 90 percent of today's underground production is cut by machine, over 80 percent of the shot holes are power drilled, and about 85 percent of the output is loaded mechanically.

METHOD OF MINING AT UNDERGROUND MINES



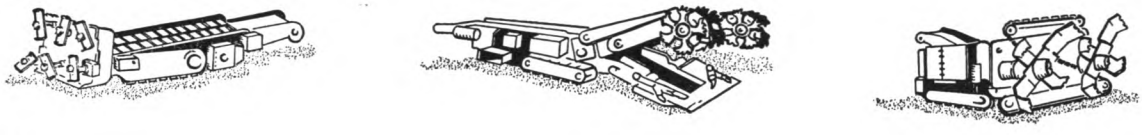
Source of data: U. S. Bureau of Mines. Entries for 1954 and 1955 are our estimates.

Mechanical Revolution Underground

Underground mining techniques have been radically changed in the past eight years. New machines have been introduced which eliminate the intermediate steps in the conventional mining cycle. Coal can be taken from the working face and moved directly to the tipple in one continuous operation with the equipment available today.

The revolution in underground recovery techniques began in 1948 when the first continuous mining machine began working in a deep mine. There are several different types of continuous mining machines on the market today. In general, they all break the coal loose at the face and load it, performing in one continuous operation the first three steps in the conventional mining cycle—cutting, drilling and blasting, and loading.

Three different types of continuous mining machines



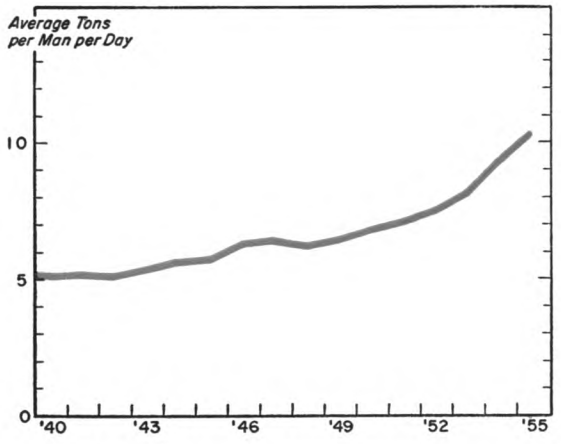
The continuous miner literally chews its way into the coal seam. In one machine, six rows of cutting teeth mounted on chains over a sprocket assembly revolve against the face, ripping the coal out. Another variety of machine has the cutting bits mounted on arms connected to six rotating shafts which break down the coal as the machine advances. A third type of machine uses cutting bits mounted at the end of what look like spokes. The machines have movable cutting heads and come in different sizes to meet the variable operating conditions underground. All continuous miners load the coal off the back of the machine as it is cut.

At first the continuous mining machines could be operated only intermittently. They mined the coal faster than it could be hauled away. Also, rock dusting, roof control, and other safety procedures had to be revamped to keep pace with the rapidly advancing machines. By 1955, the continuous mining equipment being manufactured offered solutions to these problems so that coal mining could be a truly continuous operation.

Continuous mining machines can be linked with the mine's main haulage system by using expandable conveyor units. One equipment manufacturer builds an extensible belt conveyor with a belt up to 1,000 feet long which expands and contracts within itself as it follows the continuous miner. Hydraulic roof drills can also be mounted on continuous miners, so that one machine can handle roof control as well as advance. Capacity of the new machines ranges from 4 to 8 tons per minute, depending upon the size of the machine and thickness and type of seam worked.

Use of continuous mining machines, while perhaps the most dramatic, is not the only recent innovation in underground mining methods. Progress has been made in many directions. To mention just one other, roof bolts have replaced heavy timbers in many mines. Expansion bolts, inserted in holes drilled in the mine roof, hold several feet of the overlying strata firmly together. The use of roof bolts has reduced the hazard of falling material and speeded up roof control operations.

PRODUCTIVITY AT ALL BITUMINOUS COAL MINES

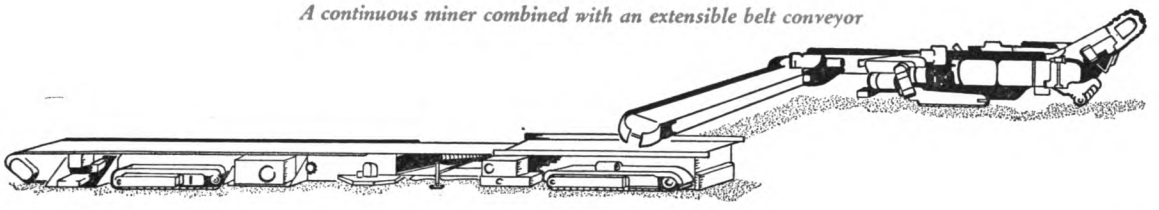


Source of data: U. S. Bureau of Mines.

New Techniques Boost Productivity Sharply

Productivity at all bituminous coal mines, historically a slowly changing average, has risen rapidly since continuous mining techniques were introduced underground. In 1955, output per man working in the mines is estimated as over 10 tons a day, up about 50 percent from the 1950 average, or an annual gain of more than 8 percent. In contrast, produc-

A continuous miner combined with an extensible belt conveyor



tivity increased only 1¾ percent per year during the first half of this century, rising from 3 tons per man-day in 1900 to 6¾ tons in 1950.[1]

While most of the rapid gains in productivity are due to the more extensive use of continuous mining machinery underground, other factors have also contributed to the rise in the over-all average. The conventional mining cycle has been speeded up underground. Surface operations have benefited from the use of heavier equipment and increased output from auger mines. Between 1950 and 1953 (the latest year for which detailed data are available) productivity increased at an annual rate of 6.9 percent in deep mines and 4.0 percent in strip mines, while the all-mine average rose at a 6.5 percent per year rate. In 1953, output per miner averaged 25.3 tons per day at auger mines[2], 17.6 tons a day in strip mines and 7.0 tons a day in deep mines as compared with the industry average of 8.2 tons.

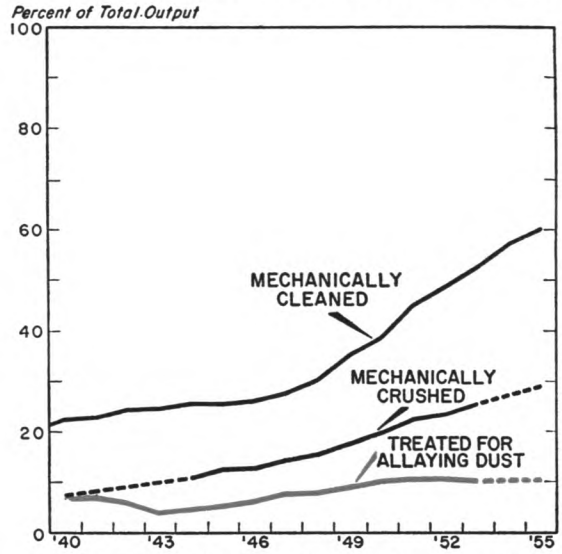
Further gains in productivity are assured, as the trend toward continuous mining gains momentum. Last year, only about 23 million tons of coal were recovered by continuous mining machines, or about 6½ percent of the underground total. Fewer than 450 continuous mining machines are now in use, less than one machine for every ten mines. A mine fully equipped with the latest continuous recovery equipment should average over 20 tons per man-day with the averages running higher in thick seams.

Preparing Coal for Market

Extracting coal from the ground is only part of the production story. At a modern coal mine, before the coal is shipped to the consumer, it is cleaned, crushed and sized mechanically.

The proportion of coal production which is cleaned has more than doubled in the past ten years. Increased mechanization at the mine — mechanical loading and continuous mining — resulted in the gathering of more refuse along with the coal. Demand for cleaner coal and for smaller sizes also stimulated the trend towards cleaning. In 1955, it is estimated that 3 out of every 5 tons of coal produced were cleaned, whereas ten years earlier the ratio was only 1 out of 4. Every 5 tons of raw coal processed yields about 4 tons of clean coal and 1 ton of refuse. The impurities are separated from the raw coal by various processes utilizing differences in specific gravities.

PREPARING BITUMINOUS COAL FOR MARKET



Source of data: U. S. Bureau of Mines. Crushing and dust treatment entries for 1954 and 1955 are our estimates.

In order to reduce the large lumps to smaller sizes according to market demand and to facilitate handling in cleaning plants, coal is crushed by heavy machinery. Since 1940, mechanical crushing has grown steadily so that close to 30 percent of the industry's current output passes through crushing plants.

About one-tenth of the coal shipped to market is treated to allay coal dust. The materials used for surface treatment to alleviate the coal-dust nuisance may be calcium chloride, oil or other petroleum products, or water used with wetting agents.

Most Coal Moves to Market by Rail

Transportation is one of the coal industry's major cost items. Since the bulk of the coal

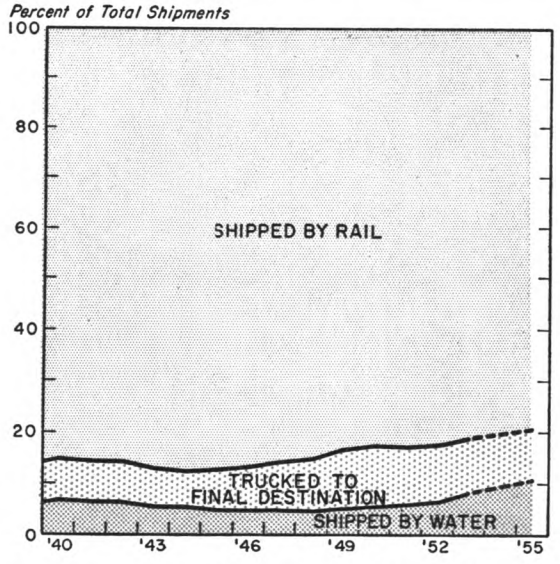
(1) Rates of change were computed using the compound interest formula.

(2) Data on auger mining were not available separately until 1952.

moves to market by rail, this usually means railroad freight charges which average about two-thirds the value of the coal at the mine. Naturally, such a big cost item is carefully watched; the industry is deeply concerned with proposed rate increases put before the Interstate Commerce Commission. As a more positive approach to the problem, new methods of moving coal have been developed and less expensive water transport over rivers is being used more extensively.

Out of every 10 tons of coal shipped in the United States from the mine, about 8 tons go by rail, 1 ton by truck and 1 ton by water. The tonnage shipped by water, principally from Pennsylvania and West Virginia mines along the Monongahela River, has increased almost two-thirds in the past ten years, rising from about 5 percent of total shipments to about 10 percent. The proportion shipped by truck to final destination also increased slightly during this period. Both the water and truck gains were made at the expense of the railroads, whose share of shipments dropped from 88 percent in 1945 to about 80 percent in 1955.

MINE SHIPMENTS OF BITUMINOUS COAL



Source of data: U. S. Bureau of Mines. Entries for 1954 and 1955 are our estimates.

It should be noted that coal is often transshipped several times before it reaches its final destination. A large proportion of the coal shipped by rail is dumped at Atlantic Coast or Lower Great Lakes ports, where it is transported coastwise to other U. S. ports, exported overseas, or shipped to Canadian and Upper Lake ports. Some of this coal is again transshipped by rail or truck to final destination. Much the same is true of water shipments. A substantial tonnage is transshipped from the Ohio River to truck or rail at Cincinnati.[3]

New Methods of Moving Coal

Two new ideas for getting coal from the mine to market have been advanced during the postwar period—moving it by belt conveyor and by pipeline. A 10¾ inch pipeline to move coal 108 miles is now under construction in Ohio, but the belt conveyor plan is being held in abeyance after several unsuccessful attempts to obtain the right of eminent domain from the Ohio Legislature.

The coal pipeline now being built will move a 50-50 mixture of crushed coal and water from a large eastern Ohio mine near Georgetown to an electric power plant in Eastlake. A 15-year contract calls for delivery of 1,200,000 tons a year through the pipe now being buried in the ground. The coal will be dewatered and dried at the Lake Erie end, then used to generate electricity for northeastern Ohio. At the southern terminus of the line, at one of the largest commercial coal operations in the world, an additional crusher and preparation plant will be built to process coal for the pipeline. The line is scheduled to be in operation early next year.

The Migration to Coal

The simplest method of reducing coal freight charges is to move the coal-consuming plant to the coal. The site of the Portsmouth atomic energy plant was picked in order to utilize nearby coal in Ohio and Kentucky to supply its

(3) Ohio River traffic was discussed in detail in the February 1955 *Business Review*. The importance of coal shipments in Ohio's interregional trade was covered in the April 1952 *Business Review*.

annual 1,800,000 kilowatt needs. Plans for new industrial and utility plants along the Ohio River announced in the last year or so show that this is happening with increasing frequency.

Electric power companies are building new generating facilities practically on top of the coal beds. New power stations are popping up all along the Upper Ohio, some with 1,000,000 kilowatt capacities. Some stations now move coal from the mine tipple to the plant over several miles of conveyors. Most of the new stations will take advantage of bringing the coal down river by barge, however. A northeastern Ohio utility has purchased a tract of river land for a future generating plant just in case the economics of power transmission and coal transport shift in favor of locating near coal.

The aluminum and chemical industries have joined the trek to coal along the Upper Ohio also. Both industries are big power users and this growth will require further expansion of electric generating capacity along the river. The new aluminum expansion is interesting in yet another respect since it reverses a long-time trend of locating primary reduction facilities near hydro power stations.

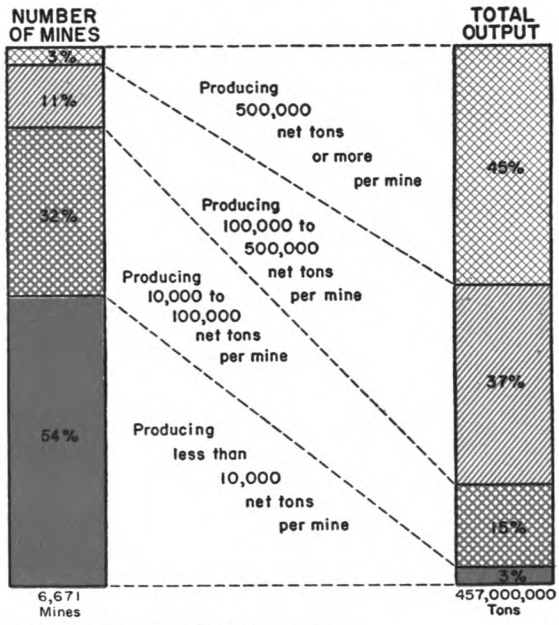
Obstacles to Modernization

The soft coal industry is composed of many small mines and small companies. There are no "giants" in the industry. The largest company produces only 6 percent of the nation's coal, and the top fifteen companies turn out only a third of the total. At the other end of the scale, some 3,000-odd mines produce less than 10,000 tons a year each, and, taken altogether, contribute only 3 percent of total output.

Not only is coal mining typically a small business, but generally it is not a very profitable business. Since 1949, about one-half of the corporations engaged in bituminous coal mining — and many mining operations are unincorporated enterprises — have reported no net income or net losses. The industry as a whole has been in the black since the beginning of World War II, however. The latest income tax summary data available for the industry (1952) shows 789 corporations reporting an average income before taxes of about $112,000 each. Profits after Federal taxes (including losses) for each of the 1,665 corporations filing income tax returns averaged just $20,000. The averages ran so low because so many mines are operated at a loss.

NUMBER AND OUTPUT OF MINES

By Size of Output in 1953



Source of data: U. S. Bureau of Mines.

Actually, in the coal industry, an owner is better off to operate at a loss than to shut down and lose his entire investment in the mine as it fills with water and the roof caves in. So, when demand falls off, he stays in business, selling coal at lower and lower prices and losing money. The large company, working a number of mines, can end up making a profit during periods of reduced demand by closing its higher cost operations and offsetting the resulting losses through concentrating output in its most efficient mines.[4]

(4) George H. Love, President, Pittsburgh Consolidation Coal Company, in an address at The Bond Club of New York on October 25, 1955.

New equipment and mine modernization are very attractive, economical investments, but they do cost money. For example, a continuous miner alone costs around $100,000 and, even though it will produce 4 tons a minute, its price puts it out of reach of the average mine owner. New equipment for strip mining is also costly. The giant power shovel put to work this year in Eastern Ohio cost around $2,600,000. But, by using this new shovel, it is estimated that the mine's recoverable reserves were raised about 3½ million tons through increasing the depth of overburden which could economically be removed.

The cost of opening a new underground mine with a capacity of 2,000,000 tons a year runs between $15,000,000 and $20,000,000. This cost would include 80,000,000 tons of coal reserves and about $8,000,000 invested in the latest mining, ventilating, hauling, cleaning, and other equipment.

Member Bank Earnings in 1955

PACED by the business boom, Fourth District member banks chalked up an impressive earnings performance in 1955. A record demand for bank credit from businessmen and consumers contributed to a 10 percent rise in operating earnings to $428 million. Expenses, though higher, allowed room for a 15 percent rise in net operating earnings to $168 million. Net profits, after taxes and adjustments for non-operating factors, amounted to $83 million, down moderately from 1954, but well above other postwar years.

Earnings

Earnings figures for the years 1947 through 1955 appear in the table on page 12. Loans produced more than one-half of total operating earnings in 1955 and nearly four-fifths of the rise over 1954. A $30-million increase in earnings on loans resulted largely from a $906 million expansion of loans outstanding during the year and only moderately from an increase in the average rate of return from 4.70 to 4.72 percent.

All types of borrowers, except farmers, shared in the growth of member bank loans. Commercial and industrial loans marked up the largest increase, $419 million, while real estate loans followed with a $248 million increase. Consumer loans also experienced a substantial increase of $181 million.

Sample data obtained from 14 of the largest member banks in this district indicate that sales finance companies accounted for roughly half of the increase in loans to business borrowers. Manufacturers of metals and metal products, and of petroleum, coal, chemicals, and rubber also registered large increases in 1955. Public utilities, together with textiles, apparel, and leather, were the only business groups that reduced their bank borrowings.

During the war years, security holdings generated the bulk of member bank earnings. The return to loans as the main earnings producer began in 1948 in this District. In 1955, earnings on securities accounted for less than one-third of total operating earnings and less than one-sixth of the increase over the previous year.

The Federal Reserve System's anti-inflation policy of restraining the expansion of credit during 1955 led to a reduction in bank holdings

of U. S. Government securities as banks sold securities to meet the increased demand for loans. Fourth District member banks reduced their holdings of U. S. Government securities by $441 million during 1955. The effect on earnings of smaller holdings was offset by an increase in the average rate of return from 1.98 percent in 1954 to 2.11 percent in 1955 and by other factors. Consequently, earnings on U. S. Governments increased $6 million.

Earnings on securities other than U. S. Governments, largely State and local government securities, play a minor role in determining the level of member bank earnings. In 1955, earnings from this source amounted to $27 million, or 6 percent of operating earnings.

Expenses

Despite an increase of $17 million, operating expenses represented about 60 percent of operating earnings—a smaller share than in 1954. This was an improved performance over the immediate postwar years, when expenses of Fourth District member banks consumed an increasingly larger share of each year's earnings. A peak was reached during the years 1947-1949, when expenses were about 65 percent of earnings. The expenses-to-earnings ratio dropped gradually to reach 60 percent in 1951 and has remained near that level in four of the past five years.

Because of the stickiness of major expense items, concern has been expressed in some quarters over the banking community's ability to maintain the growth in net operating earnings and profits in the event of a decline in the rate of growth of total operating earnings. Such a decline occurred in 1954, while expenses continued to increase. As a result, the ratio of expenses to earnings moved up to 63 percent and net operating earnings registered less than a 2 percent rise. From this viewpoint, therefore, the failure of expenses to keep pace with the growth in earnings in 1955 was an encouraging sign, though not necessarily a harbinger of future expense-earnings relationships.

As usual, salaries and wages comprised nearly half of total operating expenses. Interest on time deposits, the next largest single expense item, has increased steadily over the years. In 1955, time deposit interest payments of $49 million were more than twice the 1946 level.

Non-Operating Charges to Profits

In addition to net operating earnings, profits before taxes are affected by several non-operating factors: (1) recoveries and losses and charge-offs on securities, loans, and other assets; (2) profits on sales of securities; and (3) changes in valuation reserves for securities and loans. During most of the postwar period, the net effect of these factors has been to reduce the carry-over to profits. In 1954, however, profits on sales of securities of $42 million, though partly offset by a $22 million increase in valuation reserves, contributed $6 million to the carry-over of net operating earnings to profits before taxes.

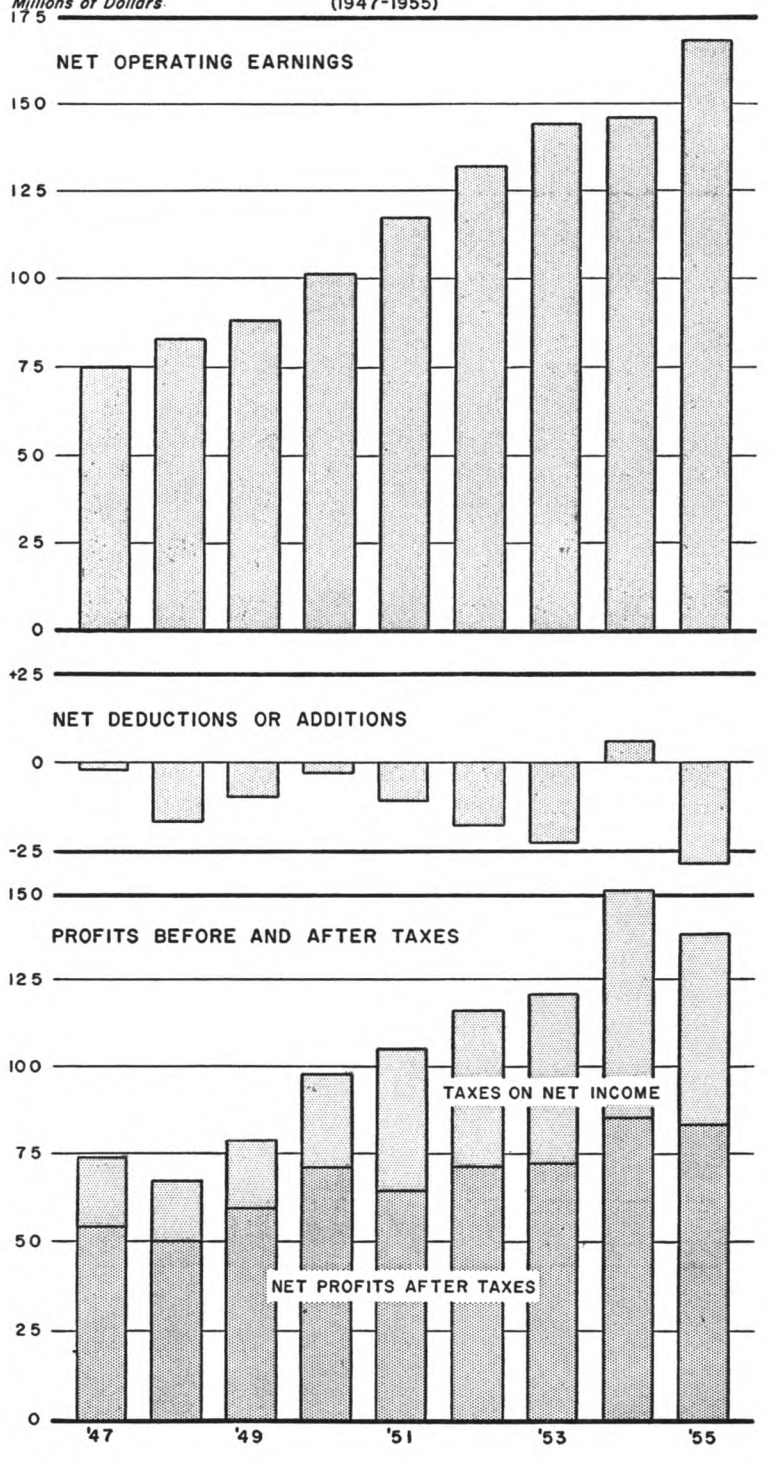
In 1955, sales of securities under the market conditions then prevailing resulted in losses. The net effect of these losses and a smaller increase in valuation reserves, as well as net losses and charge-offs on loans and other assets, was a $29 million deduction from the carry-over of net operating earnings, the largest deduction in the postwar period.

Profits Before and After Taxes

The shift from a net addition to a net deduction applied to the carry-over of net operating earnings led to a decrease in profits before taxes of $13 million between 1954 and 1955. On the other hand, the losses sustained reduced taxes on net income from the postwar high of $66 million in 1954 to $55 million in 1955. After adjustment for non-operating factors and taxes, net profits were $83 million, a 7.5 percent return on average total capital accounts. About 56 percent of net profits were retained to build up capital accounts and the remainder, $37 million, was distributed as cash dividends.

MEMBER BANK EARNINGS, FOURTH DISTRICT

Millions of Dollars (1947-1955)



Net Operating Earnings continued the postwar trend to higher levels in 1955, but . . .

. . . the carry-over to net profits was reduced by the largest postwar total of net losses and charge-offs, and higher valuation reserves.

As a result, profits before taxes and net profits after taxes in 1955 were below 1954.

MEMBER BANK EARNINGS, 1947-1955

Fourth District

(Dollar Amounts in Millions)

Items	1947	1948	1949	1950	1951	1952	1953	1954	1955[p]
Operating Earnings	214	233	246	266	296	330	365	389	428
U. S. Government Securities	81	76	78	80	78	85	94	99	104
Other Securities	17	18	18	19	21	23	24	26	27
Loans	79	99	107	120	147	172	194	202	232
Other Earnings	37	41	43	46	49	50	53	62	64
Operating Expenses	139	150	158	165	178	198	221	243	260
Salaries and Wages	58	64	69	74	83	91	101	109	116
Interest on Time Deposits	26	27	28	28	28	31	38	46	49
Other Expenses	55	59	62	64	68	76	83	88	95
Net Operating Earnings	75	83	88	101	117	132	144	146	168
Net Recoveries (+) or Losses & Charge-offs (—)[1]:									
Securities	+1	+3	+3	+27	+12	—12	—18	+38	—20
Loans	—4	—1	—3	— 2	— 1	— 2	— 2	— 2	— 1
Other	+1	+1	—1	— 1	— 2	— 1	— 2	— 8	— 3
Net Increase (—) or Decrease (+) in Valuation Reserves	[2]	—20	—9	—27	—20	— 3	— 1	—22	— 5
Taxes on Net Income	20	17	20	27	41	45	49	66	55
Net Profits	54	50	59	71	64	71	72	85	83
Cash Dividends Declared	21	21	22	25	27	29	31	34	37
Ratio of Net Profits to Average Total Capital Accounts	6.9	6.2	7.2	8.3	7.3	7.7	7.4	8.2	7.5
Average Return on Securities:									
U. S. Government	1.65	1.64	1.63	1.61	1.67	1.79	1.97	1.98	2.11
Other	2.36	2.31	2.35	2.26	2.20	2.23	2.30	2.33	2.26
Average Return on Loans	3.64	3.88	4.10	4.20	4.26	4.42	4.58	4.70	4.72
Number of Banks	710	704	700	693	685	673	652	632	616

[p] preliminary

[1] Includes those recoveries, losses and charge-offs charged to valuation reserves and those charged directly to undivided profits, also includes profits on sales of securities.

[2] Not reported separately. Transfers to and from these reserves were included with losses and recoveries, but such transfers are estimated to have been relatively small prior to 1947.