OFFICE OF NATIONAL RECOVERY ADMINISTRATION

DIVISION OF REVIEW

ECONOMIC SURVEY OF THE BITUMINOUS COAL INDUSTRY

UNDER FREE COMPETITION AND CODE REGULATION

By
F. E. Berquist
and
Associates

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INDUSTRY STUDIES SECTION
March, 1936

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FOREWORD

This study of the bituminous coal industry was prepared under the supervision of Mr. F. E. Berquist of the Industry Studies Section, Mr. M. D. Vincent in charge.

The report is based upon materials prepared by the Bituminous Coal Unit as a whole; the several chapters were written by the following authors:

Summary	F. E. Berquist
Chapter I	E. B. Gordon and F. E. Berquist
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Chapter III	George A. Lamb
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Chapter VI	George A. Lamb
Appendix II	Charlotte E. Warner

In addition to acknowledgment of the work of the several authors, special recognition is made of the assistance of Virginia E. McArdle in assembling and checking the materials which enter into the report.

Because of circumstances beyond control of the Coal Unit - principally curtailment of personnel and requests for assistance arising in connection with new coal legislation - the report as originally planned was materially modified and reduced in scope. It covers the salient aspects of the principal phases of interest relative to the operations of the industry under the code with four major exceptions: (1) code authority organization and administration, (2) functioning of labor boards, (3) transportation, and (4) compliance and enforcement. The main attention has been given to labor, costs and price fixing aspects. The effort has been directed toward developing these topics in such a way as to illustrate the problems encountered and methods adopted to solve them, rather than to provide a comprehensive treatment of all the cases that

called for administrative or other action.

The report sets forth the nature of the problem of bituminous coal and treats the two major issues, stabilization and coordination of prices and of wages. The extent to which these objectives were achieved are discussed in detail in the body of the report and are briefly summarized in the Summary.

Many of the developments under the Code arose in connection with administration by code authorities, in joint conferences between representatives of the several subdivisions, and in the wage conferences. While the results of these activities ultimately became a part of the records of the NRA, a great deal of the records of proceedings (when formally kept) remained in the possession of code authorities and their successors. It did not prove possible to conduct the field work with industry and labor representatives necessary to develop such materials.

The report does not purport to provide solutions to such serious questions arising under the Code as minimum price fixing and correlation of prices and wage differentials. However, the materials contained in the report together with cost and other data developed in connection with the Code should be very helpful in the future handling of these problems under any program of control.

At the back of this report will be found a brief statement of the studies undertaken by the Division of Review.

L. C. Marshall,
Director, Division of Review.

March 19, 1936.

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SUMMARY

Employment: The code sought to increase employment through limitation of the working hours of employees, first to 8 and later to 7, and the number of days to 5, or a 40-hour week from October, 1933 to March, 1934, and a 35-hour week thereafter. Prior to the Code in 1933, approximately 7.4 per cent of the total employees were engaged in mines whose established working day was 9 or 10 hours. The change to the 8-hour day for these mines would necessarily result in additional employees or days worked if output were to be maintained. The change from 8 hours to 7 hours in April 1934 affected all mines and necessarily required either more men, more days worked or both to maintain production except insofar as mechanization or increases in strip mining operations (higher output per man per day), or improvement in efficiency might tend to offset the reduced working time. According to the index of employment of the Bureau of Labor Statistics, the average number employed in 1934 was 13.7 per cent greater than in 1933, while the average number of working days increased from 167 to 178, an increase of 6.6 per cent, according to the U. S. Bureau of Mines. The combined increase of men employed and days worked would indicate an increase of 21.2 per cent in man-days of employment. How much of this increase is attributable to the Code provisions and how much to increased production in 1934 or 1933 cannot be definitely ascertained. Production was 7.7 per cent greater in 1934, and if the assumption is made that only this increase would have occurred if 1933 employment conditions had prevailed, then the remaining increase may be attributed to the Code.

On the other hand, output per man per day declined only approximately 8 per cent in 1934 as compared with 1933, according to the Bureau of Mines. If the change reflected in productivity is correct, then only 8 per cent of increased employment may be attributed to the Code. While the two statistical indications each reflect increases in the volume of employment (number of men employed and days of work afforded) due to the Code and independent of increased production, there is considerable variance in the extent of such improvement. Considering the nature of the statistical bases, it is the considered opinion of the Coal Unit of the Division of Review that the true increase falls between the limits of 8 and 13 per cent, probably nearer the lower than the upper limit. Such employment data as are available indicate that approximately 41,000 men were added to bituminous coal mining payrolls in 1934 as against 1933. The Bureau of Mines reported employment in 1933 as 418,703 and in 1934 as 458,011 - an increase of 39,208. It must be remembered that these figures are annual and therefore include in 1933 the influence of the N.I.R.A. and the Code during the latter months of the year. The Bureau of Labor Statistics index applied to the Census of Unemployment, April, 1930, indicate that employment increased from 310,738 in 1933 to 353,290 in 1934 or 42,452 men. While these two estimates of the number of men employed differ, the calculated increases in employment are not far apart. For a detailed discussion of employment under the Code, see Chapter IV.

Wages: Wage rates had fallen progressively after 1923 until the advent of the Code. In the area east of the Mississippi River (representing approximately 90 per cent of total production) average hourly earnings for all classes of employees had fallen from 79.5 cents in 1924

(last quarter) to 41.2 cents in 1933 (February). This decline reflects the downward trend in prices experienced during this period, which curtailed the income from coal sales and hence the ability to maintain wage rates. Wage rates just prior to the Code were at the lowest level since 1916.

The Code provided for a schedule of minimum rates of pay for inside skilled day labor and outside common day labor (Schedule A). Except for a small portion of the industry in which union agreements were in effect and continued under the Code, the increases provided in this schedule were very substantial. The following indicates the percentage increase resulting in adoption of Schedule "A" in October, 1933, and contracts executed thereunder in areas east of the Mississippi.

	Per Cent.
Central Pennsylvania	32.5
Maryland & Upper Potomac	61.3
Western Pennsylvania	60.5
Northern West Virginia	60,7
Ohio	46.8
Southern Sub division No. 2 (High Volatile)	58.3
Average above	50,4
Alabama	64.3
Illinois & Indiana	No change - continued operating under existing wage contract.

Again, in April, 1934, hours were reduced from 8 to 7, and wages were increased. While no composite measurement of the daily average increases effected can be made, the following shows the increase in the wage cost per ton for important areas:

	Per Ton Wage Cost Increase	Per Cent Increase
Eastern Pennsylvania	22.9 Cents	21.5
Western Pennsylvania	20.0 "	20.2
Ohio	19.9 "	20.9
Northern West Virginia	22.1 "	28.5
Southern No. 1	20.3 "	21.5
Southern No. 2	21.2 "	24.2
Maryland & Upper Potomac	20.0 "	17.8

The wage cost per ton for Division I (exclusive of Southern Subdivision No. 1) Western Kentucky and Michigan, after the two wage increases previously indicated averaged $1,153 per ton as compared with the estimated wage cost of 61.4 cents in May, 1933. Applying this increase in wage cost per ton to the total production in these areas of Division I for the coal year April 1, 1934 to March 31, 1935, which amounted to 206,000,000 tons, the increase in the wage bill because of hours and wage-rate changes in the Code amounted to the tremendous total of $111,000,000. The estimated number of employees in the subdivisions embraced in the above mentioned area is approximately 265,000. On the basis of the calculated gain in earnings for April, 1934 - March, 1935 coal year, the average increase per worker for that period was $419, compared with what the earnings would have been if May 1933 wage rates and hours had continued during this period. If the estimated output per man per day be taken as 4.2 tons, then on this basis the daily wage

increased $2.26 after April, 1934 as against that which might have been secured by the May, 1933 rates. The production for which the foregoing gains amply represented about 57 per cent of the total production of the industry during the coal year.

While the experience in this area was probably outstanding in the industry, the other areas also reflected substantial increases in the returns to labor under the Code.

It is also significant to note that the Code structure of wages continued beyond May 27, 1935, when the N. I. R. A. was declared unconstitutional by the Supreme Court. Although operators and United Mine Workers failed to arrive at agreements before the expiration of their contracts on March 31, 1935, by a series of truce agreements the wage schedules under the Code were continued until October, when a new series of contracts became effective. Thus, the momentum gained under the Code as to wage rates carried through the intervening period between the collapse of the N.R. A. and the Passage of the Bituminous Coal Conservation Act of 1935 and laid the foundation for new contracts at substantially increased wage rates. Details of wage changes and earnings are discussed in Chapter IV.

Wage Differentials: Without question the most difficult problem met in the formulation of the Coal Code was the matter of minimum rates of pay to be prescribed. This revolved not so much on the absolute level of wages but rather on the relative levels for the different areas, that is, as to the differences in the minimum rates among the various areas. Since wages constitute 60-65 per cent of costs, the relative levels of wages go to the very core of the question of survival in the various competitive markets. The problem of relative levels of wages, or differentials, is affected by and must take into account many elements, most important of which are:

1. Productivity of labor (output per man per day). This is affected by geological conditions, such as seam thickness, pitch of seams, partings in coal, underground water and drainage, character of roof, etc. Mechanization is also a very important factor.

2. Quality of coal. This involves chemical analysis, physical structure, fusibility, etc., which bear directly on the relative values of coals in the market.

3. Freight-rate differentials or the differences in cost to place coals from different producing areas into common markets.

4. Competing fuels, especially natural gas and fuel oil. The competition of natural gas is particularly important in Divisions III and IV and greatly limits the ability to pay wages.

Past history of the industry reflects the influence of these factors in the considerable range of the wage rate levels which existed among the various areas of the industry. From the beginning of negotiations looking toward the formulation of a code, it was recognized by operators and labor alike that some pattern of wage differentials must be developed, to give expression to the purpose of NRA to increase real labor income as greatly as the ability of the industry permitted, and at the same time to avoid burdening any section of the industry to a point of destruction. Factual bases for such a determination at that time were scanty indeed. There existed practically no data on costs of production for the different areas, and such as were available were too old or fragmentary to place reliance upon for arriving at specific minimum rates. Accordingly, the question of differentials was resolved through prolonged negotiations among operators representing different areas, labor representatives, and the NRA. The end-product, "Schedule A, Minimum Rates of Pay", was a composite of compromises, in some instances reluctantly made and agreed upon only as provisional settlements until such time as the problem could be worked out on a basis of facts. That the schedule was considered tentative was recognized in the Code under Article V, Section (g) which provided that the NRA should undertake an investigation and report on or before December 31, 1933 on the "advisability of revising wage differentials in the various divisions and districts of the industry and in the event of recommended change, specification of the amount thereof."

Because of the limited time afforded, data were not available in time for the preparation of a report with recommendations covering differentials that should be established. It should also be pointed out that the provision in the original Code for a report by NRA on differentials was never carried out.

While several subdivisions urged that the matter of differentials be taken up at a public hearing by NRA prior to the expiration of wage agreements on March 31, 1934, no action in this direction was taken. After a series of meetings late in March, which consisted mainly of convening and adjourning until a later day or hour, the Ohio, Western Pennsylvania and Eastern Subdivisions, on March 30, submitted to a conference of the whole industry a proposed revision of minimum rates of pay and differentials for the entire industry. This proposal narrowed differentials generally, though in differing amounts for the affected areas. Immediate and vehement protest was made by a number of areas, particularly Divisions III and IV, Western Kentucky and Northern West Virginia. On March 31, the Administrator of NRA declared that an emergency was threatened in the industry because the wage negotiations had not been concluded and no agreement had been reached as to wages beyond March 31, and thereupon promulgated Amendment 1 to the Code, setting forth the schedule of rates recommended by the three Subdivisions referred to.

This action on the part of the Administrator was widely considered among industry members as arbitrary and precipitate. The outcome demonstrated that a solution of the differentials question must be founded upon adequate facts and after deliberate consideration among the affected parties. Four major alterations of the Amendment 1 were made:

1. The increase set forth in the basic inside skilled rate for Alabama was reduced from $1.20 per day to 40 cents per day.

2. The increase of 85 cents per day in Division IV was reduced to 75 cents for deep mines and 60 cents for strip mines, thus recognizing the relative ability to pay as a factor in setting rates for deep as opposed to strip mines.

3. The increase of 60 cents per day for Western Kentucky was not recognized by that area, which was successful in the federal District Court in having an injunction granted against the wage provisions of the Code.

4. A determination of increases for tonnage men in Northern West Virginia in excess of that provided in other areas in Division I.

That these adjustments in differentials offered no final solution for differentials was recognized in Amendment 2 which provided that a special unit be set up in the Research and Planning Division of NRA to study wage rates and report to the Administrator its findings and recommendations. Also, the Appalachian Wage Agreement provided for the establishment of the North-South Differentials Commission, composed of operators from Northern and Southern Subdivisions of Division I and representatives of United Mine Workers.

The investigation to be made by NRA under Amendment 2 was unable to get under way because the Subdivisions of Division I could not agree on the content of forms to be used in collecting necessary data. The Ohio and Pennsylvania Subdivisions would agree to the collection of only limited data which were considered by the Research and Planning Division to be quite inadequate to supply the basis for a factual study. The Southern Subdivisions were willing to accept the proposals of NRA. The efforts of NRA to settle the controversy were weak, vacillating and futile.

The fate of the North-South Differentials Commission activities was similar to that of NRA. No agreement could be made as to the basis upon which their work was to proceed with the result that nothing was accomplished.

Thus, the Code passed into history without carrying out any of the provisions in the original Code or its amendments respecting the study of differentials or adjudicating the many claims and counter-claims as to the economic validity of the rates as established during the Code. In the Appalachian Wage Agreement of September, 1935, as was true in the April, 1934 agreement, provision was made for the study of differentials, thus picking up where the NRA left off in the matter of ultimate solution of the problem.

However, the unsettled status of differentials does not warrant the conclusion that the schedule of minimum rates established was without merit. On the contrary the wage pattern was one of the outstanding achievements of the Code in that it substituted a definite, solid foundation for costs instead of the shifting, unstable, uncoordinated and unpredictable basis that had existed previously. It set definite standards as among the various areas, which, when tested by the experience of time, would reveal any inequities of the rates. Claims of injustice could then be scrutinized in terms of comparative costs and the relative abilities of the various areas to maintain their positions in the industry. Such data as were collected on costs and realization under the Code did suggest the necessity for modification. If an adequate fact-finding program under the NRA had been accepted by the industry (or otherwise made a pre-requisite by NRA to the continued privilege of price-fixing by the industry), the basis for an equitable and economic wage structure with sound differentials would have been laid. Until an adequate basis in fact is established, the wage pattern for the industry rests upon the bargaining strength of the operators of the various areas and the representatives of the employees, with probable repercussions as developed under the Code. For detailed discussion of differentials, see Chapter IV.

Collective Bargaining: Following the expiration of the Jacksonville area Agreement in April 1937, the extent of collective bargaining in the bituminous coal industry fell to the lowest level since the establishment of the joint conference for the Central Competitive Field in 1898. Prior to the Code in 1933, the principal area having wage agreements comprised the States of Illinois, Indiana and Iowa. Some contracts were also in effect in the Southwest Interstate fields (Arkansas, Oklahoma and Kansas) and in the Rocky Mountain area. The total tonnage produced under union contracts was probably no more than 15 percent of the total for the United States. Previous to approval of the code, even anticipating the adoption of the NIRA, a wave of union organization swept over the industry. Eventually close to 95 percent of the labor employed was working under collective bargaining agreements entered into between the representatives of organized labor and operators. This represented the all-time peak of collective bargaining in the industry and large portions of the industry were thus served which had hitherto never engaged in this type of operator-labor relationship.

Another important feature of collective bargaining was the change from the Central Competitive area basis to the Appalachian area basis. Hitherto, the principal collective bargaining agreement applied to the Central Competitive Field - Illinois, Indiana, Ohio and Western Pennsylvania. With the advent of the Code, the principal agreement became the Appalachian Agreement, which recognized the growing conviction that stabilization within the industry insofar as labor aspects were concerned required the joint solution of North-South competitive relations of the industry.

Industrial Peace: One of the outstanding achievements of operation under the Code was the high degree of industrial peace which prevailed. Labor relations entered a new phase in the history of the industry.

Sections of the industry in which collective bargaining had never existed, entered into wage negotiations on a sincere and cooperative basis. It is true that a number of serious situations developed at different times and places, but these were usually of short duration and extended over relatively limited territory. In terms of the industry as a whole and compared with previous labor disputes, the Code period compares favorably with any in the history of the industry. Wage contracts entered into were remarkably well observed throughout their life.

It is significant to note that two contract periods expired without the completion of contract arrangements for the industry as a whole. Yet neither in the spring of 1934 or 1935 did this situation result in a prolonged suspension in operations as had occurred on so many similar occasions in the past. This was particularly true at the end of March, 1935. Through the good offices of the NRA, extension of existing agreements until June 16, was agreed to, obviating the necessity of suspension because of inability to agree on the terms of a new contract.

The Code served as a vehicle for bringing together the various sections of the industry and labor, which had never occurred before for the industry as a whole. It served to break down the compartmentalized barriers which existed previously and developed a considerable spirit of "give and take", to appreciate the problems of other sections and of labor, and a desire to promote the general welfare of the industry in which all segments would necessarily benefit. It developed a recognition that arrangements as to wages or prices which tended to cripple unduly any section would operate as a boomerang to other sections. Bitter enemies of the past were obligated to gather around the conference table, and although a great many of these meetings broke up without accomplishment, others were productive of the solution of perplexing problems. One of these developments was the Appalachian conference which brought together the northern and southern sections of the Appalachian region. For the first time in history, Ohio and Pennsylvania joined with West Virginia and Eastern Kentucky in the working out of a joint wage agreement, this conference superseding the old Central Competitive Conference which no longer served the economic development of the industry.

Prices: The concurrent wage and price deflation, beginning in 1929 and continuing until the summer of 1933, demonstrated the utter inability of the industry to achieve a stabilized basis short of complete bankruptcy of operators and pauperization of employees. In recognition of the interdependence of wage costs and prices, the Code granted the privilege of minimum price-fixing to effectuate the minimum rates of wages established, and other provisions of the NIRA and the Code. It was argued by the industry, and accepted by the National Recovery Administration, that any regulation of the industry affecting wage and other costs, or otherwise restraining freedom of action through trade practice provisions, must necessarily be accompanied by the guarantee of adequate income to support such additional burdens. No specific standards for prices were established, except for the general terms "fair market price" as determined and approved under the Code.

The Code was successful in materially increasing the level of prices in the industry. In 1933, according to the U.S. Bureau of Mines, the average realization for all coal, f.o.b. mines (captive plus commercial) was $1.31 as compared with $1.78 for 1934. However, the increase for commercial production alone (with which the Code and price-fixing were primarily concerned) was much greater, as shown for Divisions I, II and III, which represent about 90 percent of the total production of the United States:

	Average Realization Commercial Mines 1933	Average Realization Commercial Mines Apr. 1934 - Jan. 1935
Division I (Penna., Ohio, Mich., Ky., W.Va., Va., Md., and Northern Tenn.)	$1.10	$1.90
Division II (Ill & Ind. only.)	1.53	1.69
Division III (Ala., So. Tenn. & Ga.)	1.57	2.25
Weighted Average		1.87

The increase in realization brought about by the Code was even greater than indicated in the preceding figures for two reasons: (1) During the first half of 1933 prices fell to greater depths than 1933. It has been estimated by the Coal Unit of the Division of Review that the Average realization for commercial mines of Division I during the 9-month period prior to the Code (January - September 1933) was only $1.03 per ton as compared with $1.10 for 1933. (2) The average realization under the Code was diminished somewhat because of deliveries made on contracts entered into prior to the Code at less than Code prices. The reductions per ton in average realization resulting from these below-Code-price contracts cannot be ascertained, but the indications are that these ranged from practically no diminution for some areas to possibly as much as 20 cents per ton for other areas in certain months.

Another adverse effect on realization was the failure of operators to observe at all times the Code prices in effect. This non-compliance became a matter of grave concern early in 1935. The extent to which Code prices were not observed is not known, but common gossip among operators was that prices were breaking, that is, the "other fellow's prices". The complaint was made repeatedly that the machinery for compliance enforcement was lacking or failed to function. It became evident that reliance on price-fixing depended almost entirely upon the voluntary observance of prices by producers rather than upon the sanctions of law or the Code. This uncertainty in the ability to maintain what in effect was a voluntary price structure raised fears in the minds of

labor that the wage structure would be jeopardized if the situation continued. Accordingly, the United Mine Workers prepared and sponsored a bill for regulation with "teeth" in it to bring about compliance to established prices. This later became, in modified form, the so-called Guffey Act, or the Bituminous Coal Conservation Act of 1935. Because of the weaknesses in price-fixing under the NRA Code, a majority of the operators eventually joined with the United Mine Workers in support of new legislation. For details of price-fixing, See Chapter VI.

Costs: Although specific standards for price-fixing were not set forth in the Code, the test of costs may well be used to show the reasonableness or unreasonableness of the level of prices established. As indicated in the resume of prices, Code prices were somewhat higher than would otherwise have been necessary had not part of the coal been sold on contracts entered into prior to the Code at less than Code prices. However, granting at this point some degree of inequity as between pre-Code contract prices and Code prices, the showing of average realization for all sales with the average cost of production indicates on the whole quite reasonable results. There appears no abuse of the privilege of price-fixing in the sense that excessive price levels were established as compared with cost of production, administration, and selling. For the 10-month period, April 1934 through January 1935, the following weighted average costs and realizations resulted in the areas representing approximately 90 percent of the nation's production:

	Total Costs (*) Average	Average Realization Commercial Tonnage
Division I (70-72% of total production of U.S.)	$1.892	$1.897
Division II (III. & Ind. only) (15-17% of total)	1.545	1.629
Division III (Ala., Southern Tenn. and Georgia) (2 - 3% of total)	2.296	2.254

(*) Costs exclude capital charges (interest on bonds, etc.)

While the average realization increased materially under the Code as compared with pre-Code, it is evident that this increase was necessary to carry the costs of production incurred under Code provisions.

Financial Improvements in the Industry: The financial record of the bituminous coal industry, as shown by Internal Revenue Reports, reflects the economic decline of the industry after 1923. In the generally prosperous years of 1928 and 1929, the industry reported deficits

of $24,506,000 and $11,622,000 respectively. In the succeeding four years the deficits ranged from $48,071,000 to $51,167,000. This experience was in marked contrast to that under the Code. While "Statistics of Income" are not available for 1934, the statistics of cost and realization collected by the NRA., indicate a greatly improved financial condition, as shown in the preceding comparison of costs and realization.

It is anticipated that when Internal Revenue figures for 1934 are available, the deficits reported will be greatly reduced as compared with the preceding four years. It is doubtful, however, whether a net income for the industry as a whole will be shown. The conclusion of improved financial status is amply fortified by many statements of operators to that effect given at public hearings. In the trade press and otherwise. The improved status is also reflected in the resolution adopted by the National Coal Association at a meeting of its directors in October, 1934, which put the Association on record as favoring the continuation of the Bituminous Coal Code.

Another evidence was the maintenance of wage rates under the Code. Whereas prior to the Code the pressure to reduce wages was experienced generally throughout the industry, the record under the Code was most impressive in terms of compliance with minimum rates of pay and wage agreements made thereunder. If the financial status of the industry had not improved materially after adoption of the Code, the likelihood of increased wages in April 1934 and again in September 1935, would have been remote. However, the substantial increases at the times indicated have not resulted in any concerted violations in any area, - in other words, the industry has been financially able to carry the increased costs by virtue of an improved economic status.

Allocation of Tonnage. During the decade preceding the NRA, the flow of coal from the various producing areas was tremendously affected, some areas gaining enormously while corresponding losses occurred in others. (See Chapter I, page .) While the Code did not provide for the allocation of tonnage among producers, it did declare that in determining the fair market price consideration should be taken of competition with other coals, etc. One of the first problems after the Code was adopted was the correlation of prices among the various Subdivisions, for the purpose of establishing a fair market opportunity for the different producing areas. Essentially, this resulted in a freezing of the flow of coal as it existed prior to the Code. Areas which had lost heavily in their share of total production after 1923 (Illinois, Indiana, Ohio, and Pennsylvania) felt that they were entitled to a greater share to restore the earlier relationship, while West Virginia and Kentucky argued they were not responsible for the industrial and labor policy of the north which resulted in shifts in tonnage. The problem of so adjusting prices that the relative market opportunities for different groups would not be unduly disturbed became very difficult and at times acute. Finally in the summer of 1934, a scheme known as the "Adams Plan" was agreed to by the subdivisions of Division I, in which the percentages of tonnage that each area should enjoy out of the total for the Division

were fixed. As each month's production became known, the results were to be compared with the percentages fixed. If an area fell below its share, it should then be privileged to reduce its prices to such extent that would allow it to recapture the deficiency in its share. In other words, the plan was essentially an effort toward physical allocation through the indirect method of adjusting prices. The plan continued for six months beyond which Western Pennsylvania Subdivision refused to agree.

Any plan of minimum price fixing in the bituminous coal industry must recognize established movements of coal if certain sections are not to be destroyed or greatly reduced in their positions in the industry. Therefore, price-fixing becomes a round-about method of production control or allocation, and tends to preserve the weaker economic sections of the industry and retards the adjustment of excessive capacity to the level of consumptive demands. Whether in the long run allocation of tonnage through the indirect method of price-fixing could be maintained is highly problematical. The difficulties under the Code appear to support the proponents of direct allocation of production.

Factual Basis for Promoting Industry Regulation: One of the greatest handicaps in the formulation and administration of the Code was the lack of certain types of factual information upon which to predicate minimum wage and price determinations, at what relative price levels could the various areas compete in the different markets with the maximum of equality of opportunity? What relative wage rate levels could the various areas support without excessive penalty here or undue advantage there? These two questions -- probable income per ton under a system of correlated price fixing on the one hand, the costs of production resulting from minimum wage rates and maximum hours provisions on the other -- required precise and comprehensive data which were not available. The determination of these questions when first presented had to be accomplished through a process of negotiation - of give and take. The Code as adopted in September 1933, recognized the need for the collection of data on costs, realization and wages in order to establish bench marks for future action and a review of the determinations made in establishing the Code.

Accordingly, an elaborate program of statistical reporting was established soon after the adoption of the Code, embracing costs, income from coal sales and employment and earnings data. Considering earlier excursions in the field of costs and labor earnings statistics by the Government, the response in the early months to the program was quite remarkable. When the results became available, however, the attitude toward fact finding languished somewhat, particularly with reference to labor statistics. Here, as might be expected, the results did not justify the determinations made with reference to minimum rates of pay, or so at least it was argued by those areas that felt they had been discriminated against. The difficulties that arose from the showing for different areas of the earnings of piece-workers led to interminable wrangling as to revision of methods used in the original reporting, with the final result that reporting on employment and earnings data was completely discontinued.

On the other hand, since the results were not as contentious in their nature, the reporting of costs covered a period of 15 months - from November 1933 through January 1935. This applied to Divisions I, II and III, with exceptions for Western Kentucky and Iowa, which failed to continue after the first 3 or 4 months. Likewise, cost reporting failed to carry on beyond March 1934 in Divisions IV and V. The results of the statistical reporting have been published by the NRA in four volumes.

Whatever may be said of the inadequacy of the fact finding program, the statistics on cost fill a significant gap in the records of the industry. On the basis of the cost and realization information made available, it is possible to discover fundamental relations in the economic status among the various sections of the industry, and to arrive at reasonable limits within which the decisions of regulation must be made.

The published reports have been eagerly sought by members of the industry, trade associations of operators, wage conference members, labor representatives, consumers, students of the economics of the industry and others. Undoubtedly, one of the contributions of NRA was an increase in knowledge of basic facts of costs and realization of the industry through which the solution of its problems might be achieved with a maximum degree of equity among the various contending interests.

CHAPTER I (*)

THE BITUMINOUS COAL INDUSTRY, ITS HISTORICAL BACKGROUND AND PROBLEMS

Intelligent review and understanding of the bituminous coal industry's experience under the NRA requires a consideration of its prior history and problems.

THE INDUSTRY'S BACKGROUND

The United States possesses within its borders approximately half of the coal resources of the world. Except for relatively inaccessible portions of the public domain in the Rocky Mountains, practically all of this vast storehouse is privately owned. While, measured in terms of annual needs, these reserves represent a supply for hundreds of years, the urge of the present generation of owners has been to reduce these resource assets to current income. In many cases, the burden of coal-land taxes and of carrying charges on investments already incurred compels owners to develop properties without regard to the economic timeliness of their exploitation. While not as destructive economically as the law of the capture applied to oil resources, nevertheless it has fostered excess capacity, overproduction as compared with demand, low prices for coal, and resulting starvation wages for workers.

In order of rank, coals fall in the following categories:

Anthracite (hardest)
Semi-anthracite
Semi-bituminous (really super-bituminous)
Bituminous
Sub-bituminous
Lignite (softest)
(a separate group commonly known as "cannel" coal).

The bituminous coal mining industry, as contemplated in this study, includes the recovery of all kinds of coal except anthracite, by either underground or "stripping" operations.

This basic industry has occupied, and still occupies, a strategic position in the economic life of the nation. The families of over half a million workers represent probably well over two million people who depend directly upon this industry for a livelihood; transportation and distribution services raise this number very materially. Millions of our population rely upon an unfailing supply for heat, both in homes and in offices; railways consume upward of 20 per cent of the total; industry operates very largely upon energy derived from coal.

(*) By F. E. Berquist and Ellery B. Gordon.

Production. Beginning with the eighties, production kept pace with consumption, approximately doubling in each decade down to the beginning of the World War. During this period of gradual industrial expansion, the industry developed along with the growth of all other industries and was the chief source of energy used in the production of light, heat and power.

In the pre-war year of 1913, production reached the total of 478,435,000 tons. Beginning with 1916, production was stepped up rapidly, due to war activity, and reached its all-time peak of 579,386,000 tons in 1918. The enormous development of new mines during this period, extension of railroads to serve them, and formation of companies to operate them, presaged the ruinous deflation which began in 1923 and finally came into full effect in the depression years from 1930 to 1933. In a futile effort to retain the markets which had been opened to them, operators cut and recut their prices. Despite their best efforts production declined until the low figure of 308,907,000 tons was reached in 1932, the lowest production in any year since 1904. (For annual production see Chapter III).

It must be borne in mind that production directly, it might be said almost immediately, reflects current market demand. Coal is mined and shipped when and as needed. Storage at mines is practically nil; dock-storage is maintained on the Great Lakes and at some coast transshipping points; public utilities and steel plants maintain storage piles; these represent as a rule only 15 to 60 days' supply. Retailers possess facilities for stocking, but seldom utilize them to capacity except in early fall in anticipation of the first cold weather demand. In times of shortage or threatened shortage from whatever cause, stock piles have been built up far beyond normal practice. Generally, however, dependence is on uninterrupted mining and transportation. With the exception of coal shipped to tidewater docks, and to lake docks during the open shipping months, it may be stated that coal is largely purchased before it is mined. At no time has capacity to produce been fully taxed.

Excess Capacity for Production. Mine capacity increased with the growing development of the industry, was stimulated during the war period, and continued unabated until 1923. Attractive high prices for coal furnished the incentive. In that year capacity reached its peak, and thereafter receded rapidly until 1933, due to closing of mines by

companies unable longer to compete in the market at the going prices. (*)

The bituminous coal code became effective in October 1933. Prices were fixed at levels related to a greatly increased wage-bill and intended, approximate at least, to average the production cost. After years of losses, the industry entered upon a code period of substantially higher prices. While 5,427 operating mines were recorded in 1932, in the next year 5,556 were operating and in 1934 there were 6,258. (**) The increase in number of mines was due, in large part, to reopening of mines previously idle, though some of the increase may have been new mines. The U. S. Bureau of Mines has this to say in summarizing the pre-code decade as a "period of liquidation:"

> "So great an excess above the needs of the market made liquidation inevitable and since 1923 the industry has been involved in a continuous process of deflation, forcing heavy financial loss and sharp reduction in wages. Between 1923 and 1932 *** the net reduction in the number of operating mines - commercial mines, not wagon mines - was 3,904 and the net reduction of operating capacity, 317,000,000 tons. In 1932 alone, 215 mines with an annual capacity of 83,000,000 tons shut down.***" (***)

This liquidation continued through the early months of 1933, but with the coming of the N.R.A. Coal Code, and much improved prices fixed thereunder, many marginal mines, previously closed, reopened.

(*) In the U. S. Bureau of Mines "Minerals Year Book" for 1932, appears on page 393, an analysis of idle mine capacity in the country and its availability for use in a period when higher prices may be in effect. This analysis includes the following tabulation of mines which have been annually reported to that Bureau as "idle" rather than abandoned as worked out:

		Capacity, tons 308 Days
219 had been idle since	1923	17,000,000
118 " " " "	1924	19,000,000
83 " " " "	1925	13,000,000
151 " " " "	1926	12,000,000
313 " " " "	1927	42,000,000
210 " " " "	1928	27,000,000
261 " " " "	1929	30,000,000
Total to the end of 1930		160,000,000

These mines working 280 days would have had an annual capacity of 145,450,000 tons. It is not possible to estimate dependably how much of this idle mine capacity was really "suspended" capacity rather than abandoned.

(**) "Bituminous Coal Tables 1934," U. S. Bureau of Mines, November 30, 1935, p. 1

(***) Minerals Year Book 1934, p.571, U. S. Bureau of Mines.

An ever-present capacity to produce tonnage far in excess of current consumption, even of peak demands, has been a potent influence in the unrestrained competitive struggle which typified the industry in the pre-NRA decade.

The history of labor in bituminous coal is inseparable from the industry's history. It is marked by hard-won recognition of collective bargaining, repeated periodic strikes, and suspensions and lockouts during the life or organized negotiation. Violence and bloodshed often resulted. Unionized areas expanded their influence until the "central competitive field" (Illinois, Indiana, Ohio, Western Pennsylvania) negotiated agreements that formed the basis for all wage scales. After 1923, long continued liquidation of productive capacity, intense competition on cut-price bases for a market steadily trending downward in volume, has their effect on wages; wage contracts were revised, broken, abandoned by operators in one field after field until in early 1933, Illinois and Indiana were the only important producing fields still adhering to union contracts.

This labor story is essential to a grasp of the industry's economic life prior to NRA. The reader is referred to Chapter IV of this study treating in detail the entire labor history. No brief survey can adequately convey the dominating part played by labor relations in the entire economic development of coal.

Intensive Competition; Consequent Pressure on Methods and Costs of Production

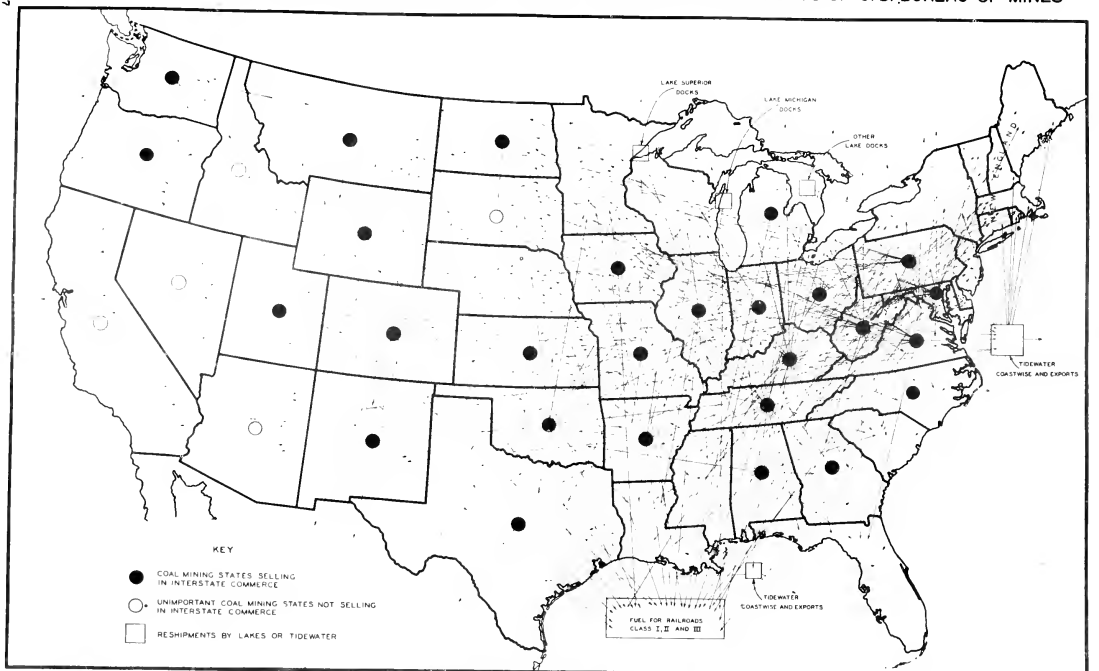
Coal flows from its many producing fields by a maze of hauls and crosshauls to meet in competition for the markets of the country. A conception of the territorial extent and complexity of the distribution pattern, as it has grown, may be had from a charting of the "Interstate Movement of Coal in 1929," as shown in reports of the U. S. Bureau of Mines.

It would seem unnecessary at this point to enter into detailed statistical analysis of distribution, since it will be exhaustively treated in a later section of this study devoted to "production and distribution." The following map impressively protrays a widespread intermingling in interstate commerce of coals shipped from all important producing centers.

In 1929, the last year for which detailed distribution data are available, about 74 percent of the total sales entered interstate commerce. The other 26 percent were intrastate in character.

The struggle among producers and districts for markets and for greater shares in the available tonnage in the consuming centers has been a bitter one. The total business available did not increase in proportion to the expansion of general industrial activity and prosperity between 1923 and 1929. A glance at the yearly production record, shown in chapter III sufficiently discloses this fact: average production per year in the 6 years 1924 through 1929 was 522 million tons, only a 7 percent increase over the average of 488 million for the 5 preceding years. Many factors were responsible for this slow growth, among them

THE INTERSTATE MOVEMENT OF BITUMINOUS COAL IN 1929, AS SHOWN BY THE REPORTS OF U.S. BUREAU OF MINES



DISTRIBUTION OF THE TOTAL NATIONAL SUPPLY OF BITUMINOUS COAL IN 1929, DIVIDED BETWEEN INTERSTATE, INTRASTATE, AND RAILROAD FUEL

(Compiled from the reports and original records of the Bureau of Mines so as to segregate interstate from intrastate tonnage [illegible] accurately as possible.

Railroad fuel has to be shown separately since there is no possible way of telling just where it is consumed, although it is known that the great bulk of it moves across State lines or is burned in locomotives hauling trains that cross State lines. Only the fuel delivered to railroads subject to the jurisdiction of the Interstate Commerce Commission [illegible] included (Classes I, II, and III, switching and terminal).

[illegible] the coal delivered to other consumers, the records permit accurate separation of shipments to interstate [illegible] destinations for fully 98.2 percent of the tonnage. In order to complete the picture, the remaining [illegible] percent [illegible] been apportioned by estimate on the basis of all available data. The possible error [illegible] significant effect on the result.

[illegible] convenience, lignite and the small production of anthracite and semianthracite outside of [illegible]. Alaska, however, is not included.)

Item	Net tons	Percent of balance available for sale (item 3)
1. Total [illegible] a/	536,605,000	x x
2. Deduct [illegible] not available for sale b/	4,660,000	x x
3. Balance, available for sale	531,945,000	100.00
4. [illegible] truck and wagon, used by employees, [illegible] locomotives at tipple b/ [illegible] as INTRASTATE, although includes some interstate)	23,253,000	4.37
5. Coal equivalent of beehive coke shipped from mines: c/		
6. INTERSTATE destinations	4,295,000	0.81
7. INTRASTATE destinations	4,833,000	0.91
8. RAILROAD FUEL delivered to carriers subject to jurisdiction of the Interstate Commerce Commission: d/		
9. All-rail (or river) deliveries e/	120,048,000	22.57
10. Via tidewater f/	1,677,000	0.31
11. Via Great Lakes f/	4,676,000	0.88
12. INTERSTATE (and foreign) shipments to OTHER consumers (including steamship fuel g/):		
13. All rail (or river) h/	194,466,000	36.56
14. Via tidewater i/	32,916,000	6.18
15. Via Great Lakes j/	34,437,000	6.47
16. INTRASTATE shipments to OTHER consumers (including steamship fuel g/):		
17. All rail (or river) h/	109,790,000	20.64
18. Via tidewater i/	1,462,000	0.28
19. Via Great Lakes j/	92,000	0.02
20. RECAPITULATION		
21. INTERSTATE (and foreign) shipments plus railroad fuel delivered to carriers, subject to jurisdiction of the Interstate Commerce Commission k/	392,515,000	73.79
22. INTRASTATE shipments plus local sales l/	139,430,000	26.21
23. Grand total, available for sale	531,945,000	100.00

DISTRIBUTION OF THE TOTAL NATIONAL SUPPLY OF BITUMINOUS COAL IN 1929, DIVIDED BETWEEN INTERSTATE, INTRASTATE, AND RAILROAD FUEL —— FOOTNOTES

a/ As the figures represent distribution, involve changes in stocks, and are taken from several sources, they differ slightly from the production, which was reported by the mine operators as 534,867,987 tons in 1929, not including Alaska.

b/ Total as reported by mine operators.

c/ A number of operators market part of their coal in the form of coke, made in beehive ovens at the mines. In 1929, they reported shipping 3,020,112 tons of coke to interstate destinations and 3,406,126 tons to intrastate destinations, and the total tonnage of raw coal charged in the ovens has been apportioned accordingly.

d/ About 5 percent of the railroad fuel coal is used by the carriers in shops, round-houses, and stations. The other 95 percent is used as locomotive fuel.

e/ As reported by the traffic managers of all originating carriers to the Bureau of Mines, supplemented by reports from the fuel agents of Class I roads. Includes all-rail (or all-river) deliveries to Class I, II and III, switching and terminal railroads, so far as records of reporting companies could identify the same.

f/ As reported to the Bureau of Mines by the fuel agents of all Class I roads.

g/ The trifling amounts of steamship fuel used by river vessels are credited to the State in which the coal was delivered to the vessel. In the more important Great Lakes and tidewater bunker trades, nearly all coal supplied for steamship fuel is known to be shipped across State lines before delivery to the vessel or else to be burned on voyages to foreign countries or on coastwise voyages between more than one State. At some ports, such as Cleveland, Ohio, coal from mines within the State is delivered to tugs, ferries, or other local vessels that do not cross to ports in another State, and such coal, as far as it can be estimated, is counted as intrastate. The possible effect of such estimate upon the total is negligible.

h/ From U. S. Bureau of Mines, Supplements to Monthly Distribution Reports Numbers 1, 3, 4, and 6. A small portion of the tonnage which is originated in coal fields that lie in two adjoining States and shipped to points within these two States has been apportioned between interstate and intrastate, partly by estimate. The possible effect of such estimates upon the total is not significant.

i/ In the U. S. Bureau of Mines 1929 survey of distribution (Supplements to Monthly Distribution Reports Numbers 1, 3, 4, and 6) the total tonnage accounted for as shipped from the mines to tidewater is 36,054,877 tons. This has been apportioned between interstate and intrastate on the basis of the following information:

Detailed reports from the railroads operating tidewater piers at the ports of New York, Philadelphia, Baltimore, Hampton Roads, and Charleston show the tonnage handled by field of origin and by destination. This permits positive identification of nearly all the interstate movements. A few items which are partly interstate and partly intrastate have been apportioned by estimate, but the possible effect of such estimate upon the total is not significant. The total tonnage traced back to each field of origin in this way was then adjusted to agree with the total quantity reported by the traffic managers of the originating railroads as having left the mines in the field of origin and consigned to tidewater piers. A similar apportionment, using various local sources of information, has been made for the small tonnage handled over tidewater piers on the Gulf and the Pacific Coast.

This method showed 1,462,000 tons of intrastate business and 37,487,000 tons of interstate business. Out of the latter figure, 1,677,000 tons is known to have been railroad fuel, covered in item (10). Deducting this leaves 32,916,000 tons of interstate tidewater business other than railroad fuel.

j/ Based upon detailed records of tonnage dumped over the lake docks, classified by railroad of origin and destination. This permits positive identification of nearly all the interstate movements. A few small items which are partly interstate and partly intrastate have been apportioned by estimate, but the possible effect of such estimates upon the total is not significant. A slight adjustment has been made by deducting 86,000 tons from the indicated interstate shipments to consumers other than railroads, in order to make the final total agree with the quantity reported by the traffic managers of the originating railroads as leaving the mines and consigned to lake ports.

Note that these figures represent movement by vessel only. Shipments by car ferry are counted as all rail.

k/ Items (13) + (14) + (15) + (6) + (9) + (10) + (11).

l/ Items (17) + (18) + (19) + (4) + (7).

By F. G. Tryon and W. H. Young,
Coal Economics Division,
U. S. Bureau of Mines,
October 16, 1935.

steadily increasing use of competing fuels and notable strides in fuel economy. The internecine competition, involving freight-rate structure with its differential rates, frozen wage-rate levels in unionized territory in contrast to the freedom of non-union fields to manipulate wages downward to conform to price reductions, and other considerations, resulted in major, violent shifts in the relative share of markets among the producing fields. This struggle took the form of price warfare; production of sized coal to more intensively exploid the retailer as an outlet for domestic sizes, chemical treatment and washing, with the same objective--improved merchandising.

This bitter competition from both within and without the bituminous coal industry, accompanied by price warfare, pressed so heavily upon costs that resort was had to every possible means to reduce cost of production. Labor, as the major cost element, offered the greatest opportunity and consequently stood the brunt of the battle. (See Chapter IV for full analysis of labor's plight during the pre-NRA decade.)

Merchanization of Mines was rapidly developed. In 1922, mechanically mined tonnage, both underground and in stripping operations, represented 65.6 percent of the total output, or 277 million out of 422 million tons. By 1929, it had reached 79.2 percent, or 424 out of 535 million tons. The reduction in the amount of mechanically produced coal in the next 4 years was attributable to depression. Nevertheless the production from stripping mines fell off little below the 20 million of 1929 and thereby showed a remarkable percentage gain from 3.8 in 1929 to 5.5 percent of total output in 1933. Underground machine-cut production also showed gains relative to the total, so that in 1933 the total mechanically mined tonnage reached 85.5 percent. This represents a relative gain of 30 percent in 1933 over the 65.6 percent of 1922.

Data bearing on savings in labor cost incident to mechanization, are scanty. Stripping operations as such, show a striking increase in output per man per day - from 5.1 tons in 1914 to 13 in 1928 and to 15.67 in 1932. In deep mining an increase in production rate, not all attributable to mechanization (some influence undoubtedly was exerted by changes in length of working days), was experienced - the average per underground man per day was 4.98 tons in 1922 in contrast to 5.78 in 1932.

In a study by the U. S. Bureau of Labor Statistics (1933) an attempt was made to measure the effect of mechanization on employment in the bituminous coal industry. (*) Says that study:

> "If strip mines and mechanized loading mines were replaced by mines producing at the same rate per day of labor as other mines in the United States, an average of 525,240 persons would have been necessary in 1930 instead of 493,202 actually employed. Thus the potential loss in jobs due to the efficiency of these mines alone amounts to about 32,000." ***

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(*) Monthly Labor Review, February 1933, pp. 256-278

> "Had the man-day output remained at the same level as in 1910, 722,584 persons instead of the 493,202 actually employed would have been required to produce the 1930 tonnage in 187 days (the average number of days of operation in that year); while for the 1929 output 706,032 instead of 502,993 persons would have been required."

The paper rightly concluded that "many of the improvements in methods and mechanization cannot be measured statistically in their effect on employment opportunities."

In some states, stripping operations account for a major portion of the coal produced. This method of coal recovery is almost entirely mechanical; mining is by steam shovel and loading is mainly by revolving shovels. Daily output per man is high, and costs per ton are relatively low in this type of operation. This low cost coal enters into competition with deep-mined coal produced at higher average cost, with a rapidly narrowing margin of quality disadvantage, although qualities vary widely among stripped coals. Stripping contributes its share of downward pressure on prices under any scheme of free competition. Although in 1933 only 5.5 percent of the United States total production was from stripping mines, these mines occupied commanding positions in certain states, such as Kansas, Missouri and North Dakota, with over 60 percent of the total coal output; over 35 percent of the total in Indiana and Montana; over 15 percent in Illinois, and over 11 percent in Ohio. With the possible exception of the coal deposits in Kansas, it is doubtful whether the coal reserves of the United States that may be profitably mined by stripping are even near exhaustion; the possibilities of expanding the annual output are considerable. (*) The progress of mechanical mining may be summed up in tabular form:

(*) See Minerals Yearbooks; also Economic Paper No. 11, "The Economics of Strip Coal Mining," p. 3; U. S. Bureau of Mines.

METHODS OF RECOVERY IN MINING BITUMINOUS COAL. (*) (thousands of net tons)
TOTAL FOR UNITED STATES, 1922 to 1934, inclusive.

Year	Mined by Hand and Shot off the Solid	(%)	Cut by Machine	(%)	From Strip Pits	(%)	Not Specified	(%)	Total production	Mechanically Loaded	(%)	Average Output per Man per Day Under Ground (tons)	Strip (tons)
1922	137,071	32.5	267,033	63.2	10,225	2.4	7,939	1.9	422,268	-	-	4.93	8.1
1923	170,173	30.1	377,436	66.9	11,940	2.1	5,016	.9	564,565	1,880	.3	5.15	9.3
1924	131,721	27.3	336,271	69.5	13,607	2.8	2,027	.4	483,626	3,496	.7	5.17	9.9
1925	134,230	25.8	366,726	70.6	16,871	3.2	2,226	.4	520,053	6,148	1.2	5.09	11.2
1926	143,213	24.9	410,912	71.7	16,923	3.0	2,319	.4	573,367	10,022	1.8	5.07	11.2
1927	123,399	23.8	374,041	72.2	18,378	3.6	1,945	.4	517,763	-	2	5.11	11.0
1928	110,190	22.0	369,687	73.8	19,789	4.0	1,079	.2	500,745	21,559	4.3	5.26	13.0
1929	110,433	20.7	403,607	75.4	20,268	3.8	621	.1	534,989	37,862	7.4	5.42	14.1
1930	84,696	18.1	362,425	77.5	19,842	4.3	663	.1	467,526	46,932	10.0	5.61	16.2
1931	60,329	15.8	302,263	79.1	18,932	5.0	565	.1	382,089	47,562	12.5	5.85	15.8
1932	45,836	14.8	243,355	78.8	19,541	6.3	278	.1	309,710	35,817	11.6	5.78	15.7
1933	42,066	14.4	267,000	80.0	18,270	5.5	235	.1	333,631	37,320	11.3	5.37	12.8
1934	53,474	14.9	284,677	79.2	20,789	5.8	428	.1	359,368	41,453	11.5	4.94	12.1

(*) From "Mineral Resources" annual 1922-1931 and "Mineral Yearbook 1932-1934; U. S. Geological Survey 1922; U. S. Bureau of Mines 1923-34.

The lower productivity in 1934 reflects the change to a 7-hour day in April of that year.

Fuel economy is of first importance as a factor in reduced demand for coal. Losses sustained on this account have not been as large as through other causes, but these losses are permanent.

"For a time the effects of the movement were obscured by the munitions prosperity and the disturbed conditions of coal supply from 1916 to 1920. Interest in preparation lagged at a time when 'anything black' was saleable; thousands of mushroomlike small mines diluted the supply with dirty coal; and war-time zoning regulations, priority orders, strikes, and car shortages often forced consumers to accept coal ill-suited to their needs. Thus, it was not until after 1920 that the effects of fuel economy began to register themselves in the national demand. Thereafter the movement gathered momentum, and for 10 years it has remained perhaps the most important single factor in the market, its effect remaining long after the immediate stimulus of high prices has disappeared. The cumulative result is summarized in the following statement, which shows the average percentage reduction in fuel consumed per unit of product from the beginning of the fuel economy movement in 1909 to the end of the post-war boom in1929. (Tryon, F.G., and Rogers, H.O., Statistical Studies of Progress in Fuel Efficiency, Transactions: 2nd World Power Conf., Vol. 6, sec. 12, 1930, pp. 343-365)

	Percent Reduction
Electric public utility power plants	66
Steam railroads	40
Petroleum refining	36
Iron furnaces, steel works, and rolling mills	25
Cement mills	21
All other manufacturing, approximately	21
(All industries and railroads combined, approx	33

"The average reduction in all industrial and railroad uses combined is 33 percent. Stated another way, had there been no advance in thermal efficiency during the 20 years and had the efficiencies of 1909 continued without change. American business would have consumed 210,000,000 tons more of bituminous coal in 1929 than were in fact required.

"Savings during this period were not so much due to the appearance of epoch-making inventions like those of Watt and Nielson as to the cumulative effect of many small economies and to the general application of improvements and practices which the best plants had already shown to

be profitable." (*)

Improvement in fuel efficiency in the electric public utility power plants of the United States; the fuel efficeincy of locomotives in road service on steam railroads; the striking economies in by-product coke ovens and in pig iron manufacture - as shown in the following table from U. S. Bureau of Mines reports - are examples of savings that adversely affect the tonnage demand.

(*) Minerals Yearbook 1932-33; U. S. Bureau of Mines; p. 400

EXAMPLES OF FUEL ECONOMY

Year	Electric Public Utility Power Plants-Pounds of fuel consumed by fuel stations per kilowatt hour	Steam Railroad Locomotives Pounds of coal per--- 1,000 gr. ton miles Freight serv.	Pass. train car miles	By-Product Cooking-Coal equivalent of the gas, tar, and oil recovered No. of tons (000) omitted)	Iron & Steel Blast Furnaces Pounds of coal per gross ton of pig iron and ferro alloys
1913...	----	-----	----	2,600	3637.2
1914...	----	-----	----	2,461	3519.3
1915...	----	-----	----	3,280	3351.2
1916...	----	169.	18.5	4,375	3421.1
1917...	----	176.	19.4	5,432	3523.6
1918...	----	174.	19.2	6,785	3577.1
1919...	3.2	164.	18.1	7,575	3427.6
1920...	3.0	174.	18.8	9,316	3420.8
1921...	2.7	162.	17.7	6,461	3236.2
1922...	2.5	163.	17.9	9,058	3186.4
1923...	2.4	161.	18.1	12,417	3323.4
1924...	2.2	149.	17.0	11,628	3248.2
1925...	2.1	140.	16.1	13,786	3125.6
1926...	1.95	137.	15.8	15,394	3048.4
1927...	1.84	131.	15.4	15,642	3093.7
1928...	1.76	127.	15.0	17,426	3053.4
1929...	1.68	125.	14.9	19,262	2983.5
1930...	1.62	121.	14.7	16,923	2978.5
1931...	1.55	119.	14.5	12,482	2923.0
1932...	1.50	123.	14.9	8,572	2910.8
1933...	1.50	121.	15.2	10,287	2875.7
1934...	1.45	122.	15.2	11,506	2926.7

Figures taken from United States Bureau of Mines reports.

Similar economies in combustion of coal have also been practiced in all branches of industry and have even reached the small domestic user in his home. Improvements in house insulation; in more efficient radiation; in automatic heat controls; in greatly improved standards of furnace construction, have in recent years sharply reduced the consumption of domestic coal per capita. Still further economies in this direction may be anticipated as economy devices are promoted by far-sighted coal men.

As a corollary to all of the factors of combustion, efficiency and economy, it must be borne in mind that they have been forced on the coal operators by the active competition of other fuels and if they had not been encouraged by him, losses to other fuels would have been much greater.

Competing Fuels. It is obvious that the level of prices which will move coal to market, is not determined by the industry; largely but by the ability or agility of consumers in satisfying their requirements from among all the fuels ordered. The truth of this is written in the records of the industry during the past 35 years. As shown in the following table, bituminous coal, at the opening of the century and until the close of the war in 1918, was the source of about 70 per cent of the total energy-supply of the country. Expanding industry, car shortages, war causes and other factors increased the delivered price of coal to several times its former value from 1917 through 1923. This led to the use of substitutes---other sources of energy.

Afforded every incentive for expanding, the competing fuels promptly increased their output and aggressively entered the market in competition with coal.

Although bituminous coal is still the principal source of energy, its share of all energy has steadily receded to the comparatively low point in 1934 of 46 per cent of total energy. This does not mean that coal was actually replaced in every instance by the total production of the other sources. Of the total quantity of petroleum produced in 1929 (1,007 million barrels) only 372 million barrels of fuel oil, or 36.9 per cent, were consumed. Of these 372 million barrels, 56 million barrels were used as fuel by oil companies, 93 million barrels were used by steamships and tankers. Eliminating these two items as apart from the domestic competitive picture, leaves 223 million barrels or the equivalent of 51.86 million tons of coal which may more properly be considered as in competition with coal. The apparent magnitude of the displacement of coal must be carefully examined in terms of the nature of its use as well as the geography of its consumption. Of this residual 223 million barrels, California alone consumed, for all purposes, 90 million and Texas 52 million barrels. While it is difficult to measure the proportion of coal displacement in the 1929 consumption of oil (314 million barrels excluding that used by oil companies), it is probably less than one fourth, or the equivalent of about 30 million tons, according to the National Industrial Conference Board.

The same careful examination must be made of natural gas. Elimination the gas used in carbon-black manufacture (261,107 million cubic feet) and field and refinery use (508,812 million cubic feet), 848,000 million cubic feet remain, which the National Industrial Recovery Board classifies as "competitive with coal." That portion which is consumed in Texas, California, Oklahoma, 335 million feet, if combined with the gas consumption of Kansas, Arkansas and Louisiana, leaves only about half the total entering directly into competition with coal.

Notwithstanding the severe depression years of 1929-33, the natural gas industry expanded. Since 1929 the competition of natural gas has been extremely acute in certain markets. Instances have been alleged of natural gas offered to consumers at rates which meant that coal, to compete, would find it necessary to sell at approximately the cost of transportation alone, in some instances at best, a few nickels or dimes per ton at the mine for the producer. The offer of natural gas, as well as oil, in some of the coal markets at practically "dumping" prices, had disproportionately depressed coal prices before the institution of NRA codes and price-fixing in bituminous coal.

This inter-fuel competition calls not for imposition of suppressing methods so much as for coordinated planning and the development of a program to deal constructively with the problems of these natural resources.

Number of Mines and Relative Production by Size Groups. During the post-war years, a large but diminishing number of mines remained in operation. The accompanying table shows the number of mines whose production in selected years placed them in one of 6 size groups. The figures after 1923 are not strictly comparable with those for 1922 and 1923 because after those years the annual survey took no count of wagon mines producing less than 1,000 tons a year. While the total volume of such mines was almost negligible (between 1 and 2 million tons), the number of mines was considerable. This is the kind of mine that, in periods of temporarily high prices, operates as long as the market holds, then disappears until opportunity again appears.

It is interesting to note the shift in percentage of total number of mines that occurred during the years 1926 to 1933, when liquidation in bituminous coal was continuous. Mines of larger tonnage output, working on reduced schedule, fell into a size group with lower production. Between 1929 and 1932, for instance, the number and percentage of total mines in the largest output group fell from 209 to 82, from 3.4 per cent to 1.5 per cent of the total number of mines, and from 29.8 per cent to 17.9 per cent of total production. At the same time, although the number of mines in the second largest output group also fell from 618 to 383, their share of total production increased from 30.6 per cent to 37.8 per cent; and in turn the number of mines in the 100,000 - 200,000 ton group dropped from 845 in 1929 to 660 in 1932, but the latter group's share of total production increased from 17.9 per cent to 21.8 per cent. This shifting undoubtedly explains in part the failure of the "less than 10,000 tons" group to shrink proportionately in numbers, many of those which dropped out of the operating statistics being offset by mines whose annual output under

PERCENT OF TOTAL B. T. U. EQUIVALENT CONTRIBUTED BY THE SEVERAL MINERAL FUELS AND WATER POWER IN THE UNITED STATES (*)

Year	Anthracite	Bituminous Coal	Total Coal	Domestic Oil (Total Crude Including that Refined)	Natural Gas (Total Production)	Imported Oil (Total Crude Including that Refined)	Total Oil and Gas	Water Power	Grand Total
1899	22.1	68.2	90.3	4.6	3.3	---	7.9	1.8	100.0
1909	15.5	70.2	85.7	7.7	3.7	(a)	11.4	2.9	100.0
1913	14.0	70.3	84.3	8.3	3.5	0.6	12.4	3.3	100.0
1918	12.3	69.5	81.8	9.8	3.6	1.0	14.4	3.8	100.0
1921	13.3	58.7	72.0	15.2	3.8	4.1	23.1	4.9	100.0
1922	8.0	59.8	67.8	18.1	4.4	4.1	26.6	5.6	100.0
1923	10.4	60.5	70.9	18.0	4.5	2.0	24.5	4.6	100.0
1924	10.8	57.0	67.8	19.3	5.5	2.1	26.9	5.3	100.0
1925	7.4	59.6	67.0	20.1	5.6	1.6	27.3	5.7	100.0
1926	9.1	59.6	68.7	18.4	5.6	1.4	25.4	5.9	100.0
1927	8.8	54.8	63.6	21.9	6.3	1.4	29.6	6.8	100.0
1928	8.3	53.2	61.5	21.9	6.8	2.0	30.7	7.8	100.0
1929	7.6	52.8	60.4	22.8	7.7	1.8	32.3	7.3	100.0
1930	7.9	51.4	59.3	22.5	8.8	1.6	32.9	7.8	100.0
1931	7.9	48.7	56.6	24.8	8.8	1.4	35.0	8.4	100.0
1932	7.5	45.0	52.5	26.1	9.3	1.5	36.9	10.6	100.0
1933	7.0	45.2	52.2	28.1	8.7	1.0	37.8	10.0	100.0
1934	7.6	46.1	53.7	26.7	9.3	1.0	37.0	9.3	100.0

(*) Bituminous Coal Tables 1934, U. S. Bureau of Mines, November 30, 1935 - last mimeographed advance copy; in NRA Bituminous Coal Unit Files.

(a) Less than 0.1 percent.

depression conditions had fallen from over 10,000 tons to less than that figure.

The opening of mines formerly closed and their return to operation under the recovery influence of 1934 is clearly shown, particularly in the small-mine group.

Consumer-owned, or "Captive" Mines. The principal industries that operate captive mines are the railroads, public utilities, by-product coke plants, and steel plants. In general it may be said that captive mines are operated by industries in which fuel is a major item of cost or which require an unfailing supply of special quality coal. No published statistics were available for these mines until a detailed study (*) and report was made by two members of the U. S. Bureau of Mines, covering in detail the operations of 1924 and, in general, the years 1913-1926. Since 1929 statistics of the U. S. Bureau of Mines are partially segregated between captive and commercial mines. The following table summarized the available data with respect to captive and commercial mine operations for selected years.

From these data it is apparent that approximately 20 per cent of the bituminous coal mined in the United States is taken from mines that are operated by industries whose principal business is other than coal mining. Most of this fuel (87 per cent in 1924) is used by the consumer-owner and does not enter directly into the competitive market with operator-owned coal. Indeed, most of the coal mined by consumer-owners in 1924 came from mines that offered none of their output in the commercial markets. The captive mines east of the Mississippi are concentrated principally around the large steel producing and other industrial centers.

The principal consumer-owners in 1924 were steel plants with 232 mines which produced 11.9 per cent of all bitiminous coal in that year; railroads with 135 mines and 5.6 per cent of the total production; other public utilities with 53 mines and 1.9 per cent; by-product coke plants with 38 mines and 1.6 per cent; all others owning 191 mines and 2 per cent; total captive production representing 23.1 per cent of all coal in that year.

(*) Mineral Resources 1926, Part II, p. 466

NUMBER AND RELATIVE PRODUCTION OF BITUMINOUS COAL MINES, BY SIZE GROUPS FOR SELECTED YEARS 1922 TO 1934. (*)

Total No. of Mines		Production more than 500,000 tons			Production more than 200,000 tons			Production from 100,000 to 200,000 tons			Production from 50,000 to 100,000 tons			Production from 10,000 to 50,000 tons			Production less than 10,000 tons		
		No. of Mines	% of Total No.	% of Total Output	No. of Mines	% of Total No.	% of Total Output	No. of Mines	% of Total No.	% of Total Output	No. of Mines	% of Total No.	% of Total Output	No. of Mines	% of Total No.	% of Total Output	No. of Mines	% of Total No.	% of Total Output
1922	14,150a/	---	---	---	416	2.9	31.2	848	6.0	27.8	1,084	7.7	18.3	3,139	22.1	18.3	8,663	61.3	4.4
1923	11,715a/	---	---	---	748	6.4	47.1	935	8.0	23.2	1,176	10.0	14.9	2,742	23.4	12.2	6,114	52.2	2.6
					200,000 to 500,000 tons														
1926	7,177b/	174	2.4	23.6	649	9.1	34.5	845	11.8	21.0	867	12.1	10.9	1,912	26.6	8.3	2,730	38.0	1.7
1929	6,091b/	209	3.4	29.6	618	10.2	35.6	660	10.9	17.9	663	11.0	9.1	1,361	22.5	6.3	2,541	42.0	1.5
1932	5,427b/	82	1.5	17.9	383	7.1	37.8	477	8.8	21.8	469	8.6	11.0	1,111	20.5	8.8	2,905	53.5	2.7
1933	5,555b/	111	2.0	23.1	387	7.0	35.8	455	8.2	19.5	502	9.0	11.0	1,075	19.3	8.0	3,025	54.5	2.6
1934	6,258b/	129	2.1	26.1	422	6.7	35.2	485	7.7	19.2	479	7.7	9.6	1,072	17.1	7.2	3,671	58.7	2.7

(*) Taken from Mineral Resources and Minerals Yearbook for respective years; U. S. Geological Survey 1923, U. S. Bureau of Mines thereafter.
a/ Including wagon mines, of which actual count was made; the total "commercial" mines in 1922 was 9,209, in 1923 was 9,331.
b/ Except wagon mines producing less than 1,000 tons.

AMOUNT AND VALUE OF CAPTIVE BITUMINOUS COAL PRODUCTION IN UNITED STATES

Year	Number of Captive Mines	Production in Net Tons (000 omitted)			Per Cent of Total Production			Average Value Per Ton F. O. B. Mine				
		100 Per Cent Captive	Part Captive	Total Captive	100 Per Cent Captive	Part Captive	Total Captive	100 Per Cent Captive	Part Captive	Total Captive	Commercial Proper	All Mines
1913	417			88,292			18.5					
1918	592			105,835			18.3					
1923	671	(Data not available)		129,213	(Data not available)		22.9			(Data not available)		
1924	649			111,655			23.1					
1926	555			130,099			22.7					
1929	487	93,662	48,012	141,674	17.51	8.97	26.48	1.98	1.71	1.89	1.72	1.78
1930		74,673	42,151	116,831	15.97	9.02	24.99	1.93	1.46	1.76	1.65	1.70
1931		54,042	36,051	90,093	14.14	9.44	23.58	1.83	1.33	1.63	1.48	1.54
1932		35,246	27,356	62,604	11.38	8.83	20.21	1.64	1.00	1.36	1.26	1.31
1933		41,729	31,345	73,074	12.51	9.39	21.90	1.56	1.30	1.45	1.29	1.34

PRODUCTION OF CAPTIVE BITUMINOUS COAL IN UNITED STATES BY TYPE OF OWNER, 1924

	No. of Mines	Production Amount (000)	% of Captive	% of Total
Railroads	135	26,966	24.15	5.58
Public Utilities	53	9,039	8.10	1.87
By-Product Coke Plants	38	7,902	7.08	1.63
Steel Plants	232	57,593	51.58	11.91
All Other	191	10,154	9.09	2.10
		111,654	100.00	23.09

The great decrease in steel production, reaching a depression low of about 26 per cent of capacity, undoubtedly contributed a heavy share of the decline in captive coal production in 1931 and 1932. It also materially affected the output of many commercial mines whose coking coal, particularly in the Pittsburgh and nearby fields, goes to the minor steel operations and to supplement the captive tonnage used by the larger steel plants.

The average value per ton f.o.b. mines is reported at a higher level than that of strictly commercial coal. Captive mines also normally enjoy a more dependable outlet for their production and show a larger number of days operated annually than do commercial mines. In 1924, captive mines worked an average of 194 days, while commercial mines averaged only 165 days. In Alabama, in 1924, 37 captive mines averaged 250 days, although commercial mines averaged only 200 days.

Transportation, Freight Rates, Revenue from Coal.(*)

Labor, the largest item, constitutes nearly two-thirds of the cost of production at the mines. The transportation cost, or freight rate, is the largest item, on the average, in delivered cost. It is surprising to note, from studies by the Interstate Commerce Department in 1930, that the transportation charges on bituminous coal equalled approximately 56 per cent of the delivered value thereof, which compared with 5 per cent on all other similar commodities, except like mine products. By 1932 this percentage had increased to 64 per cent by reason of the steadily dropping coal prices.

The following table compares average value of coal f.o.b. mine with freight revenue per net ton received from bituminous coal by railroads of the United States:

Year	Average Value per Net Ton Bituminous Coal f.o.b. Mines	Freight Revenue per Net Ton from Bituminous Coal
1923	$2.68	$2.30
1927	1.99	2.30
1929	1.78	2.25
1930	1.70	2.23
1931	1.54	2.22
1932	1.27	2.26
Decrease 1923 to 1932	$1.41	$0.04
Decrease in percentage	52.6%	1.7%

While during the decade 1923-1932, the average f.o.b. mine value of bituminous coal declined 52.6 per cent, average railroad freight revenue from coal remained practically the same.

(*) Report of Research and Planning Division on the Bituminous Coal Industry, September 1933; pages 27-30; files of N.R.A. Bituminous Coal Unit.

Prior to 1923, during the 1917-1920 period, railroad freights on coal almost doubled, lagging behind coal price increases during that period. After 1920, however, coal prices steadily trended downward until the coming of the N.R.A. code prices. By 1932 they were far below the 1917 level of $2.26, to say nothing of the 1920 average of $3.75; but the high freight rates still remained in effect, the only general reduction being one of 10 per cent in 1922.

This situation clearly put upon bituminous coal the burden of meeting competitive fuel prices at destination points, although such fuels contributed little revenue to the railroads. In the case of gas and hydro-electric power, in fact, they use their own pipe lines and wires.

The decline in average market value of coal, from which the operator must subtract the freight rate, had by 1932 produced an almost unbelievable distortion in the relative percentage of transportation charge to the delivered value of the coal. For a striking example: in 1914 Pocahontas Run-of-Mine (from smokeless field of West Virginia) showed an average mine value of $1.09 per ton; freight rate to Hampton Roads, Virginia, tidewater, was $1.25; the skilled wage rate was 25 cents per hour. A comparison of these figures with those for 1932 shows the following:

	1914	1932	Per Cent 1932 is of 1914
Average mine value of W. Va. Low Volatile	1.09	1.13	104
Freight Rate to tidewater	1.25	2.25	180
Skilled Wage Rate per hour	.25	.35	140

Similar comparisons for some of the northern coal fields would be even more startling in the relation of wage rates because a large sustained advance took place from 1914 on. It was stated that these figures do not mean that the coal business was profitable in 1914, but do mean that all the progress in the way of efficiency and economies at coal mines have been paid out largely to labor and for supplies. The facts certainly pointed to the necessity for raising coal prices, if the operators then in business were to continue.

An idea of the effect of the recovery program for bituminous coal under N.R.A. code may be had for this same Pocahontas field:

	1914	1932	1934(*)	Per Cent Increase over 1914 1932	1934
Average mine value per net ton, W.Va.	$1.09	$1.13	$1.87	4.	72
Freight Rate to tidewater, per net ton	1.25	2.25	2.25	80.	80.
Skilled Wage Rate per ton	.25	.35	1st¾ .525 Last¾ .657	40.	110. 113.

(*) Source of this column: value, U.S. Bureau of Mines, unpublished; Wage Rates: Schedule A of N.R.A. Code for Bituminous Coal Intustry and Schedule A of Amendment 1 thereto.

Were the figures for 1935 available, it is probable that the average mine value would appear somewhat less than the $1.87 realized in 1934, since it is common knowledge that coal prices, after the code expired, went greatly below the code prices in effect at that time, May 27, 1935. The freight rate to tidewater, on the other hand, was increased by a 15-cents per ton surcharge allowed about May 1935, so that the 1935 freight to tidewater from Pocahontas field was 192 per cent of the 1914 rate.

Unquestionably freight still represents, at this writing (early in 1936) more than half the destination value of coal. Although the 1935 average freight revenue figure is not yet available, it must be remembered that a surcharge of from 3 to 15 cents per ton on bituminous coal was effective in May 1935, thus raising freight rates in a year featured by a collapse of mine prices.

Consumption: Prior to the world war consumption of bituminous coal followed very closely the curve of production. There was comparatively little storage of coal until prices began to rise in 1917.

If the pre-war rate of growth in annual production had continued uninterrupted, the annual requirements would have reached 760 million tons by 1932, or about 2½ times the tonnage absorbed by the market in that year. The following table shows the production, changes in stocks, and consumption of bituminous coal in the United States from 1917 to 1934, inclusive.

CONSUMPTION AND NET CHANGES IN STOCK OF BITUMINOUS COAL 1917-1934. (*)

(in thousands of net tons)

Calendar Year	Production	Imports	Exports to:- Canada and Mexico	Exports to:- All other Countries	Net Changes in Stocks 1/	Consumption in the United States 2/
1917	551,791	1,448	18,324	5,506	-	529,409
1918	579,386	1,457	18,316	4,034	+27,900	530,593
1919	465,860	1,012	12,064	8,050	-34,900	481,658
1920	568,667	1,245	16,458	22,059	+22,800	508,595
1921	415,922	1,258	13,590	9,541	+ 2,200	391,849
1922	422,268	5,060	10,938	1,475	-12,000	426,915
1923	564,565	1,882	16,960	4,494	+26,000	518,993
1924	433,687	417	12,746	4,354	-17,000	484,004
1925	520,053	602	13,547	3,915	+ 4,000	499,193
1926	573,367	486	13,762	21,510	+ 6,000	532,581
1927	517,763	550	14,724	3,288	+ 500	499,801
1928	500,745	547	14,050	2,114	-13,700	498,828
1929	534,989	495	14,727	2,702	- 1,500	519,555
1930	467,526	241	13,667	2,210	- 3,100	454,990
1931	382,089	206	10,647	1,479	- 1,700	371,869
1932	309,710	137	8,423	385	- 5,834	306,917
1933	333,630	203	8,600	437	+ 3,048	321,748
1934	358,395	130	10,212	657	+12,505	335,201

1/ Bituminous figures are consumers' stocks. Plus sign denotes coal produced but added to stocks and notconsumed; minus sign denotes coal consumed that was withdrawn from stocks carried over from preceding year. Bituminous data from reports on consumers stocks of bituminous coal, issued by United States Bureau of Mines, and article in Coal Age, August 26, 1920, p. 429 by C. E. Lesher, formerly coal statistician U. S. Geological Survey and director of statistical division, United States Fuel Administration.

2/ Production tonnage, plus imports and minus exports, plus or minus the decrease or increase, respectively, of the net change in coal stocks.

From 1929 all branches of consumption felt the effects of depression until the recovery program in 1933, when the tide was stemmed and the curve again started upwards. The decline was least in heating of buildings, in domestic tonnage and in the generation of central-station power. It was greatest in the metallurgical industries and the manufacture of furnace coke.

An example of the effects of the depression on changes in practice in some industries and consequent radical reduction in the consumption of coal may be found in the use of scrap iron and steel instead of pig-iron. The U. S. Bureau of Mines report for 1932 says:

> "Among the causes of the flattening of coal demand after the war is the increasing use of scrap-iron and steel, which was acted to slow down the former growth of pig-iron manufacture and therefore the consumption of blast-furnace coke. *** while the output of steel increased 30 per cent from the period 1916-20 to the period 1926-30, the output of pig-iron increased only 8 per cent. This did not mean that the American people were using less iron but rather that an increasing proportion of each year's requirement was being met from scrap. Since iron-blast furnaces are ravenous consumers of fuel, the change had a powerful influence on the demand for coal. Coupled with advances in efficiency of furnace operation and coke manufacture, it meant that, in spite of a large increase in the consumption of steel, the country actually needed less coking steel to smelt pig-iron in 1929 that it did in 1916. In 1916 the blast furnaces required 66,500,000 tons of coking coal to make 39,435,000 tons of iron. In 1929 they got along with 63,200,000 tons of coking coal to make 42,614,000 tons of iron, yet the production of steel was 32 per cent greater in 1929 than it was in 1916.
>
> "Fortunately for the producers of coking coal, there has been a large increase in the consumption of coke for domestic and miscellaneous industrial uses, which has helped to offset the stationery or declining demand for metallurgical coke."

Consumption by classes of consumers, in so far as data are available is shown in the following table:

CONSUMPTION OF BITUMINOUS COAL, BY CLASSES OF CONSUMERS 1917-1933, IN THOUSANDS OF NET TONS

(Information on several other classes of consumers is available for certain years. The items shown in this table are selected because they are available in strictly comparable form for each year)

Year	Consumed in the United States							Exported		Total of consumption and exports 7/
	Colliery fuel	Electric public utilities 1/	Bunkers, foreign trade 2/	Locomotive fuel, Class I roads 3/	Coke beehive ovens 4/	Coke by-product ovens 4/	All other uses 5/	Total consumption 6/	To Canada and Mexico	To all other countries	
1917...	12,117	8/ 33,500	7,709	133,421	52,247	31,506	258,909	529,409	18,327	5,512	553,248
1918...	12,521	8/ 34,500	6,189	134,214	48,160	36,868	258,141	530,593	18,316	4,034	552,943
1919...	11,062	8/ 35,100	8,224	119,692	29,730	35,857	241,993	481,658	12,064	8,050	501,772
1920...	11,896	37,124	10,486	135,414	31,986	41,205	237,484	508,595	16,458	22,059	547,112
1921...	9,123	31,585	8,453	107,910	8,475	28,713	197,590	391,849	13,590	9,541	414,980
1922...	7,831	34,179	4,615	113,163	13,286	41,053	212,788	426,915	10,938	1,475	439,328
1923...	8,765	38,966	5,093	131,492	30,084	54,276	250,317	518,993	16,960	4,494	540,447
1924...	6,618	37,556	4,460	117,247	15,914	49,061	253,148	484,004	12,746	4,354	501,104
1925...	5,776	40,222	4,866	117,714	17,423	57,110	256,082	499,193	13,547	3,915	516,655
1926...	5,728	41,311	7,736	122,823	19,225	63,647	272,111	532,581	13,762	21,510	567,853
1927...	4,930	41,888	4,565	115,883	11,208	63,240	258,087	499,801	14,724	3,288	517,813
1928...	4,602	41,350	4,294	112,382	7,018	70,166	259,016	498,828	14,050	2,114	514,992
1929...	4,663	44,937	4,287	113,894	10,028	76,759	264,987	519,555	14,727	2,702	536,984
1930...	3,993	42,898	3,497	98,400	4,284	65,521	236,397	454,990	13,667	2,210	470,867
1931...	3,205	38,735	2,195	81,725	1,767	46,846	197,396	371,869	10,647	1,479	383,995
1932...	2,781	30,290	1,350	66,498	1,030	30,887	174,081	306,917	8,429	385	315,731
1933...	2,858	30,575	1,316	66,198	1,408	38,681	180,712	321,748	8,600	437	330,785

1/ U. S. Geological Survey. Includes a small amount of anthracite.
2/ Bureau of Foreign and Domestic Commerce.
3/ Interstate Commerce Commission. Note that consumption in shops, roundhouses, and stations is excluded, also the entire consumption of Class II and III roads.
4/ U. S. Bureau of Mines.
5/ Obtained by subtracting the known items from the total consumption. Includes general manufacturing, domestic, and many miscellaneous uses. From other sources it is known that consumption in steel works and general manufacturing is decreasing and that consumption for domestic uses is increasing.
6/ Production plus imports minus exports, plus or minus changes in consumers' stocks, as calculated in Table 3.
7/ Note that consumption includes the small amount imported.
8/ Estimated from 1917 Census of Electric Industries and incomplete data.

The "all other" designation includes both industrial and household or domestic coal. No definite data are available upon which to make a segregation of the domestic tonnage. It is variously estimated to run between 60 and 70 million tons, the writer's opinion being that the figure of 70,000,000 tons is perhaps not unreasonable for 1934, in view of the fact that about 5[illegible],000,000 tons of anthracite were shipped in that year and the Retail Solid Fuel Code letter of transmittal carried an estimate of the total of retail tonnage as 125,000,000 tons. (*)

Stocks. As has been previously stated, the practice of mine storage is not generally followed. Although there have frequently been heavy accumulations of unbilled car loads on the tracks, this practice has probably been somewhat reduced under the provision of the N.R.A. Code's trade practice rules, forbidding shipments on consignment.(**)

By far the largest element in current bituminous coal stocks is the tonnage in the hands of commercial consumers and retail coal dealers. During the years since October 1, 1916, covered by statistical records, the commercial reserves have ranged from 20,000,000 to 75,000,000 tons. Since 1928 they have fluctuated within rather narrow limits, ranging from a net shrinkage of 1,500,000 tons in 1929 to a net gain of 3,174,000 tons in 1933 and another gain of 1,636,000 tons in 1934. (See table of Consumption and Stocks, under discussion of Consumption, ante).

A comprehensive statistical summary by significant dates from October 1, 1916 through 1934 is shown in the following table:

(*) Code of Fair Competition for the Retail Solid Fuel Industry; letter of transmittal; Code Record files of N.R.A.

(**) N.R.A. Code of Fair Competition for the Bituminous Coal Industry, Article VI, Section 6

STOCKS OF BITUMINOUS COAL IN HANDS OF COMMERCIAL CONSUMERS AND IN RETAIL DEALERS' YARDS, 1916-1934 (*)

Date	Total Stock, Estimated, (thousands of tons) 1/	Days' Supply at Current Rate of Consumption on Date of Stock Taking							
		By-Product Coke Plants	Steel Plants	Other Industries	Coal Gas Plants	Electric Utilities	Retail Dealers	Rail-roads	Total Bituminous
1916 - Oct. 1	27,000	No data	25		No data	No data	No data	20	(a)
1917 - Oct. 1	28,100	No data	27		No data	No data	No data	18	(b)
1918 - July 15	39,700	28	27	48	72	39	15	25	31
- Oct. 1	59,000	32	45	71	84	47	28	29	43
- Nov. 11	63,000	35	45	71	85	49	37	31	45
1919 - Jan. 1	57,900	32	42	65	81	49	39	32	42
- Apr. 1	40,400	23	35	47	58	48	25	No data	31
1920 - Mar. 1	24,000	15	9	27	31	21	13	11	18
- June 1	20,000	8	11	24	22	22	10	10	15
1921 - Jan. 1	45,800	29	42	61	55	44	30	23	39
- Apr. 1	39,500	28	38	47	66	48	26	24	36
- Nov. 1	48,500	38	46	67	87	54	46	31	43
1922 - Jan. 1	48,000	42	48	51	89	51	33	35	41
- Mar. 1	52,500	39	48	56	82	54	23	42	43
- Oct. 1	26,000	14	17	33	38	30	18	15	21
1923 - Jan. 1	36,000	19	27	40	60	33	18	16	26
- July 1	46,000	26	35	46	89	48	39	28	37
- Oct. 1	60,000	33	39	56	91	49	36	41	45
1924 - Jan. 1	62,000	35	43	55	91	51	34	44	46
- Sept. 1	47,000	30	42	48	90	58	46	42	45
1925 - Mar. 1	44,000	25	30	40	78	51	33	35	37
- Nov. 1	48,000	26	32	44	78	46	30	30	35
1926 - Jan. 1	49,000	26	28	39	72	48	20	27	30
- April 1	40,000	21	24	32	60	46	14	23	26
- Oct. 1	43,000	26	37	37	70	45	32	33	35
1927 - Jan. 1	55,000	34	50	41	69	47	23	33	37
- Apr. 1	75,000	38	73	62	77	70	24	59	53
- Oct. 1	61,900	40	58	62	93	69	43	48	53
1928 - Jan. 1	55,500	38	45	44	79	58	27	41	41
- Apr. 1	48,300	25	35	39	74	60	17	40	34
- Oct. 1	41,100	27	31	37	72	56	33	29	35
1929 - Jan. 1	41,800	27	34	33	72	53	26	26	31
- Apr. 1	36,000	19	25	26	57	50	17	23	25
- Oct. 1	37,500	26	27	32	64	44	35	20	30
1930 - Jan. 1	40,300	30	31	32	67	45	23	21	28
- Apr. 1	33,100	22	25	26	58	44	16	19	23
- Oct. 1	35,900	32	32	36	68	50	44	22	35
1931 - Jan. 1	37,200	38	37	31	65	47	27	24	31
- Apr. 1	29,500	26	29	27	59	47	15	20	24
- Oct. 1	34,500	49	50	38	65	52	45	23	39
1932 - Jan. 1	35,500	51	44	40	62	53	31	28	37
- Apr. 1	30,050	39	45	35	57	60	22	30	33
- Oct. 1	27,500	55	50	38	61	52	40	23	38
1933 - Jan. 1	23,666	53	38	30	68	56	18	23	27
- Apr. 1	23,608	40	37	25	63	55	21	21	27
- Oct. 1	34,137	44	41	40	70	58	43	30	40
1934 - Jan. 1	32,714	53	33	32	71	57	23	24	32

(*) From "Coal in 1930", Mineral Resources, 1930 Part II, p. 682; and succeeding annuals, U. S. Bureau of Mines, in files N.R.A. Bituminous Coal Unit.

1/ Figures for 1918 are based on actual count. Beginning with April 1, 1919, figures are based on reports from a selected list of 5,000 consumers whose stocks in 1918 bore a known relation to the known total stocks.

(a) Data incomplete. Estimated as 22 days.

(b) Data incomplete. Estimated as 21 days.

Sales Realization and Prices. When the demand for coal, stimulated during the war and post-war period, slowed down to a peace-time rate of activity, the industry was left with the greatly expanded productive capacity previously described. At the same time, the market was being seriously curtailed by increasing substitution of other fuels and rapidly improving methods of coal combustion, both encouraged by the high coal prices.

From 1913 to 1916 the average value of bituminous coal in the United States varied from $1.13 to $1.32 but in 1917 jumped to $2.26, just doubling the 1913 average. Prices continued to increase until 1920 when the average value reached $3.75.

These averages do not disclose the movements of spot-market prices. The average spot-market climbed from $1.23 for 1913 to $3.25 for 1917, when Fuel Administration price control took hold and held it on an even keel. In the later months of 1916 and earlier months of 1917, in fact, the spot-price averages had run up rapidly from $2.26 to over $4.00 per ton, but were set back to $3.02 in October of 1917. The averages for 1918 and 1919, control having been removed and later reinstated, the average ran $2.58 and $2.89. The runaway market of 1920, due to a switchmen's strike and car shortage, boosted prices beginning in April, to $3.85, then to $7.18 for June, $8.51 for August, $8.52 for September, and by December had settled back to $4.38, for a year's average of $5.64. After that, except for a similar flurry the last half of 1922 and extending over the first quarter of 1923, during which the peak was $6.13 for August 1922, the trend of spot-prices has been generally downward. A brief flurry of export demand, due to a British coal strike in 1926, strengthened spot-prices temporarily, after which the sectional price-war described in the second part of this chapter, gradually drove both the spot-and contract-market down to the ruinous depths of early 1933.

Beginning in 1923, total average value, or realization, of bituminous coal continuously moved downward under the combined pressure of competition from other fuels and great strides in fuel economy, ably aided and abetted by the price and wage-scale battle between the northern and southern coal operators. At the same time, operators expended large sums of modern plants to increase the fuel value of coal by better preparation; a part of their desperate struggle against loss of market. (Detailed price and realization treatment will be found in the second part of this chapter discussing the problems of the industry; also in the chapter of Realization from Sales Under the Code.)

Below is presented a tabular presentation of the average value (realization or price), and, for comparison, the average spot-prices, by years beginning with 1913.

Average Spot Prices and Average Value, at Mines, for Bituminous Coal, 1913 to 1933.(*)

Year		Average Spot Prices	Average Value
1913	Pre-War	$ 1.23	$ 1.18
1914	"	1.14	1.17
1915	"	1.12	1.13
1916	"	1.85	1.32
1917	War	3.25	2.26
1918	"	2.58	2.58
1919	Post-War	2.50	2.49
1920	"	5.64	3.75
1921	"	2.55	2.89
1922	"	3.64	3.02
1923	"	2.77	2.68
1924	"	2.08	2.20
1925	"	2.06	2.04
1926	"	2.21	2.06
1927	"	1.99	1.99
1928	"	1.80	1.86
1929	"	1.79	1.78
1930	"	1.75	1.70
1931			1.54
1932			1.31
1933			1.34

After 10 years of ruinous decline, the average value per ton for the United States as a whole turned upward in 1933 under the influence of prices fixed in accordance with the N.R.A. code for bituminous coal. For purposes of comparison, the average value per ton at mines is shown by N.R.A. subdivisional areas in the following table, covering the pre-code decade and carrying through 1934.

(*) From Mineral Resources; 1913-1922 U. S. Geological Survey: 1924-31 U.S. Bureau of Mines; 1932-33 Minerals Yearbook, U. S. Bureau of Mines; Department of Commerce Library

AVERAGE VALUE PER NET TON F.O.B. MINES OF BITUMINOUS COAL PRODUCED, 1923-1934.
(From U. S. Bureau of Mines M.C.R. 871 as to 1923-1932; M. C. R. 919 as to 1933; unpublished data for 1934)

N. R. A. Subdivision	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934
Division I												
Eastern Subdivision	$ 2.86	$ 2.31	$ 2.09	$ 2.13	$ 2.03	$ 1.91	$ 1.84	$ 1.76	$ 1.64	$ 1.42	$ 1.37	$
Western Pennsylvania	2.68	2.22	2.10	2.13	2.06	1.90	1.78	1.69	1.55	1.28	1.37	
Ohio	2.43	2.03	1.93	1.96	1.92	1.69	1.51	1.40	1.24	1.11	1.20	
Panhandle of W. Virginia	2.53	2.08	1.94	1.93	1.78	1.66	1.54	1.45	1.33	1.10	1.23	
Michigan	4.73	4.33	4.20	4.12	4.31	4.26	3.61	3.51	3.04	2.73	2.88	
Northern W. Virginia	2.24	1.74	1.53	1.63	1.52	1.39	1.32	1.23	1.08	.86	.96	
Southern Subdivision # 1	3.14	1.98	1.94	2.12	1.97	1.79	1.76	1.73	1.47	1.16	1.21	
Southern Subdivision # 2	2.60	1.82	1.70	1.80	1.71	1.60	1.57	1.50	1.31	1.07	1.17	
Western Kentucky	2.11	1.78	1.44	1.36	1.54	1.23	1.14	1.11	1.01	.84	.88	
Total, Division I	2.67	2.04	1.89	1.95	1.86	1.72	1.65	1.58	1.41	1.16	1.23	
Division II												
Illinois	2.50	2.27	2.19	2.14	2.16	2.00	1.87	1.74	1.70	1.53	1.46	
Indiana	2.48	2.16	2.02	1.98	2.03	1.78	1.63	1.59	1.45	1.30	1.28	
Iowa	3.59	3.31	3.14	3.07	3.15	2.86	2.82	2.67	2.53	2.40	2.26	
Total Division II	2.55	2.31	2.20	2.15	2.17	2.00	1.87	1.75	1.69	1.54	1.46	
Division III												
Alabama	2.52	2.34	2.12	2.29	2.25	2.25	2.08	2.03	1.82	1.54	1.57	
Georgia	4.32	3.62	3.32	2.89	3.04	3.10	3.05	2.54	2.09	1.76	1.86	
Southern Tennessee	2.86	2.44	2.01	2.02	2.00	1.83	1.83	1.80	1.69	1.54	1.55	
Total Division III	2.56	2.35	2.12	2.27	2.24	2.22	2.07	2.02	1.81	1.55	1.57	
Division IV												
Southwestern Subdivision	3.41	3.24	3.03	2.97	2.89	2.67	2.59	2.40	2.04	1.71	1.81	
Arkansas-Okla. Subdivision	4.02	4.10	3.76	3.57	3.34	3.20	3.11	3.16	2.89	2.53	2.55	
Texas	1.82	1.50	1.55	1.60	1.51	1.34	1.45	1.57	1.49	1.42	1.01	
Total Division IV	3.34	3.19	3.00	2.95	2.83	2.64	2.59	2.48	2.15	1.81	1.84	
Division V												
Southern Colorado	3.51	3.32	3.19	3.00	2.95	3.02	2.93	2.85	2.58	2.30	2.27	
Central & So. New Mexico	3.88	3.76	3.64	3.59	3.47	3.42	3.30	3.18	3.09	2.66	2.47	
Northern Colorado	2.43	2.34	2.25	2.14	2.25	2.29	2.12	2.22	2.24	2.12	2.12	
Utah	2.89	2.69	2.56	2.37	2.32	2.53	2.47	2.47	2.22	1.99	1.91	
Southern Wyoming	2.43	2.77	2.80	2.78	2.71	2.68	2.56	2.53	2.47	2.32	2.27	
Northern Wyoming	2.60	2.58	2.75	2.65	2.64	2.54	2.51	2.43	2.24	2.03	1.65	
Montana	3.07	2.96	2.59	2.46	2.35	2.27	2.22	2.00	1.81	1.66	1.54	
Washington	3.72	3.65	3.62	3.61	3.50	3.46	3.43	3.23	3.14	2.99	2.81	
North Dakota	2.37	2.06	1.85	1.74	1.70	1.68	1.70	1.63	1.42	1.26	1.26	
South Dakota	2.41	2.99	2.91	2.91	3.04	2.80	2.96	2.42	2.33	1.77	1.75	
Ariz., Cal., Id., Neb., Nev., Ore.	3.94	4.19	4.75	3.67	2.81	3.13	3.96	4.67	5.31	4.01	4.43	
Total Division V	3.10	2.97	2.86	2.74	2.69	2.70	2.60	2.52	2.35	2.12	2.04	
Alaska	4.30	5.62	4.89	5.26	5.25	5.25	5.25	5.25	5.25	5.00	4.99	
UNITED STATES TOTAL	2.68	2.20	2.04	2.06	1.99	1.86	1.78	1.70	1.54	1.31	1.34	

THE PROBLEM OF THE BITUMINOUS COAL INDUSTRY

The Bituminous Coal Code effected tremendous changes in the economic status of the coal industry. Free competitive practices in the marketing of coal, as well as labor relations in the industry, were superseded by entirely new arrangements. In place of fierce competition for markets among producers, resulting in prices almost without any lower limit, price-fixing at materially higher levels was established. In place of an uncoordinated, chaotic wage structure, with its many attendant evils in the conditions and terms of employment, an overall pattern of wage rates was developed. It is doubtful if any industry operating under under an N.R.A. code experienced greater change in the transition from pre-code to code operation.

In order properly to appraise the effects of the coal code, it is highly desirable to describe and analyze the general status of the industry prior to the code; and to seek out and present the economic forces which were responsible for conditions as they prevailed. Even prior to the depression coal was termed a "sick" industry. While most industries enjoyed expansion and prosperity during the decade ending in 1929, the coal industry, after 1923, experienced an ever-increasing deflation and liquidation. The urge for regulation and governmental assistance in most industries was a direct product of the depression; on the other hand, the depression merely accentuated the problems of the coal industry which were already producing distress to operators and employees alike. The roots of instability in coal are to be found primarily in the nature of industrial organization for the exploitation of this resource, the effects produced by the World War, and the development along geographical lines of uncorrelated wage and labor-relations policies.

The analysis of the problem of bituminous coal as it existed prior to the Code will be divided for purposes of this presentation into three parts or periods:

a. Economic Developments prior to 1916.
b. Economic Developments from 1916 through 1923.
c. Economic Developments after 1923.

Economic Developments prior to 1916

The bituminous coal industry experienced a remarkably steady growth up to 1916. In only two years since 1895 did there occur any marked recession from the upward trend - in 1908 and 1915. Also characteristic of the industry as far back as the statistical record goes (1880), was the condition of over-capacity - the ability to produce from existing mines in excess of market demands. As production (demand) increased, new capacity came into being, with the result that average operating time (days worked) of mines remained relatively constant. This relationship is shown statistically in the following table which gives the average annual production, average capacity, and average number of days worked for 5-year periods beginning with 1890.(*)

(*) See also Charts and accompanying tables, which follow.

	Production (Millions of Net Tons)	Calculated Capacity (Millions of tons at 308 Days)	Average No. of Days Worked by Mines
1890 - 94	121	191	203
1895 - 99	156	233	205
1900 - 04	252	350	221
1905 - 09	353	513	212
1910 - 14	435	622	215

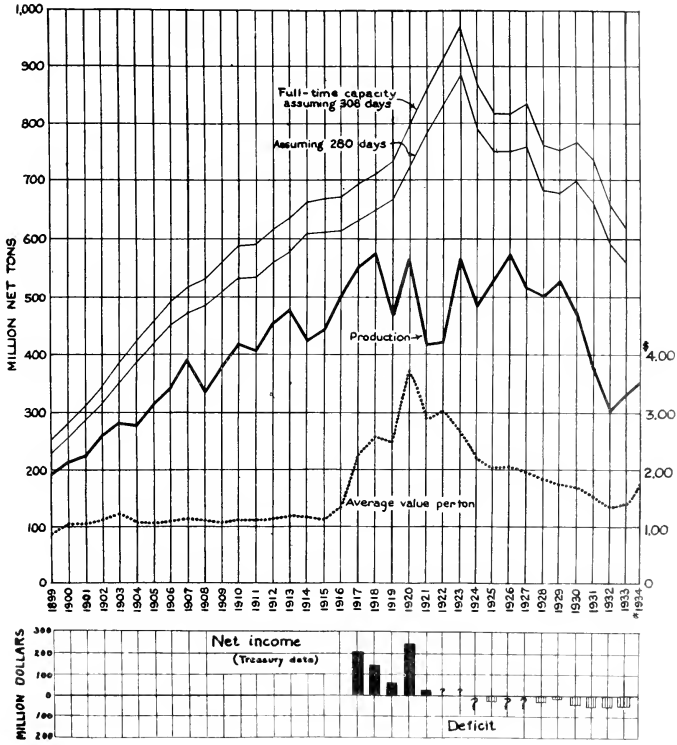
The average annual increment in production during this period was over 15 million tons, while that for capacity grew at an average rate of 22 million tons. The change in relationship of capacity to production is expressed in the average working time afforded the mines. This continued at approximately 70 per cent of theoretical maximum of 308 days. If allowances be made for seasonal demand and breakdowns in mine operation, 265 days may be considered as the maximum potential operating time for the industry. (*) On this corrected basis of available operating time, the mines in the pre-war period were utilized at approximately 80 per cent of their capacity.

This characteristic relationship of production capacity to market requirements reflects the desire on the part of owners of coal lands to convert their fixed resources into current income. The national reserves of coal are very great and practically all of those east of the Rocky Mountains are privately owned. Even at a modest estimate of two or three centuries of economically available reserves (or if it were only 100 years), and with ownership vested in thousands of different entities (coal companies, land holders, and farmers) the urge to develop holdings in coal lands has been very great. Individual operators and owners have often found the burden of carrying charges and taxes very onerous and sought to make their properties carry themselves by putting them in production. Furthermore, owners do not find it attractive to hold property indefinitely to satisfy demands of a remote future. If funds could be raised through bonds or stocks to finance new enterprise, there was always the opportunity for promoters' profits, to say nothing of possible profits from operation. Thus, as the demand forged ahead, capacity maintained roughly its proportion in advance of it. The alleviating element under these circumstances was that production did trend upward. As long as production increased year by year and the ratio of capacity to production did not materially change, the burden of overcapacity could not be considered as becoming more onerous or difficult.

The continued expansion of capacity cannot be attributed to increased prosperity in the industry, as these may be reflected in average realization for coal at the mines and the trend of wage costs up to 1916. Average realization remained relatively constant for the 15-year period, 1900 - 14, as follows:

(*) F. G. Tryon, American Capacity to Produce, Brookings Institution,

BITUMINOUS COAL PRODUCTION, REALIZATION AND MINE CAPACITY IN THE UNITED STATES 1899 - 1934.



SOURCE: U.S. GEOLOGICAL SURVEY AND U.S. BUREAU OF MINES.
PREPARED BY BITUMINOUS COAL UNIT
DIVISON OF REVIEW, N.R.A. UNDER DIRECTION OF F.E. BERQUIST.

*CAPACITY UNDER N.R.A. CONDITIONS AND WORKING TIME NOT AVAILABLE. DEFICIT ESTIMATED

9837

BITUMINOUS COAL PRODUCTION, REALIZATION AND MINE CAPACITY IN THE UNITED STATES, 1899-1934

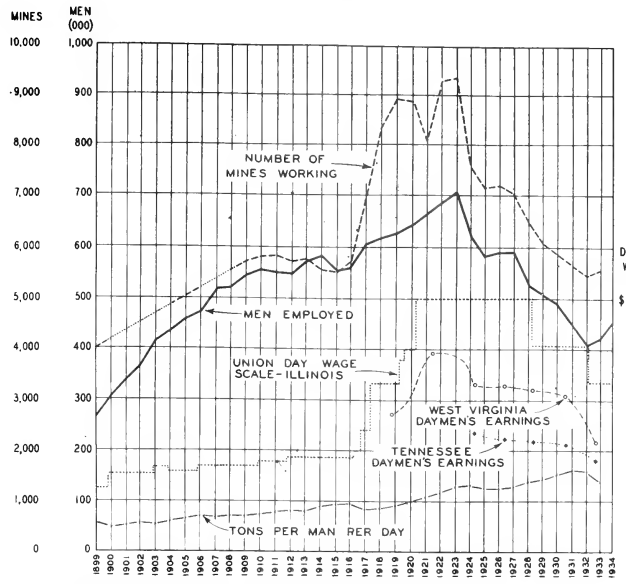
(Compiled from the annual coal reports of the United States Bureau of Mines)

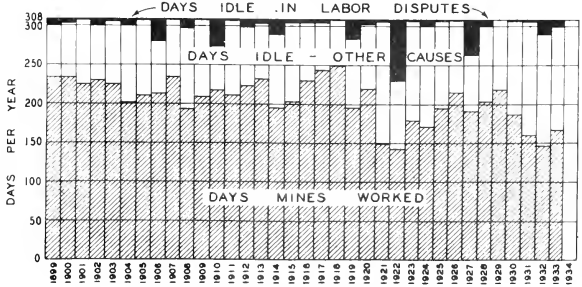
	Production (Millions of net tons)	Calculating capacity (Millions of net tons)		Value per ton
		At 308 days	At 280 days	
1899.....	193	254	230	$0.87
1900.....	212	279	255	1.04
1901.....	226	309	281	1.05
1902.....	260	348	316	1.12
1903.....	283	387	350	1.24
1904.....	279	425	386	1.10
1905.....	315	460	417	1.06
1906.....	343	496	451	1.11
1907.....	395	520	473	1.14
1908.....	333	531	482	1.12
1909.....	380	560	510	1.07
1910.....	417	592	538	1.12
1911.....	406	593	538	1.11
1912.....	450	622	566	1.15
1913.....	478	635	577	1.18
1914.....	423	668	608	1.17
1915.....	443	672	610	1.13
1916.....	503	673	613	1.32
1917.....	552	699	636	2.26
1918.....	579	717	650	2.58
1919.....	466	736	669	2.49
1920.....	569	796	725	3.75
1921.....	416	860	781	2.89
1922.....	422	916	832	3.02
1923.....	565	970	885	2.68
1924.....	484	871	792	2.20
1925.....	520	822	748	2.04
1926.....	573	821	747	2.06
1927.....	518	835	759	1.99
1928.....	501	760	691	1.86
1929.....	535	752	679	1.78
1930.....	468	770	700	1.70
1931.....	382	736	669	1.54
1932.....	310	653	594	1.31
1933.....	334	615	559	1.34
1934.....	1/ 388	2/	2/	1/ 1.82

1/ Preliminary
2/ No data

By F. G. Tryon and W. H. Young,
Coal Economics Division,
U. S. Bureau of Mines.
October 28, 1935.

TRENDS OF EMPLOYMENT, WORKING TIME, WAGE RATES AND LABOR PRODUCTIVITY, 1899-1934





SOURCES: U. S. Bureau of Mines
Bureau of Labor Statistics

9837

By F. G. Tryon and W. H. Young,
Coal Economics Division,
U. S. Bureau of Mines,
October 25, 1935.

Drafting by M. L. Anderson.

TRENDS OF EMPLOYMENT, WORKING TIME, WAGE RATES AND LABOR PRODUCTIVITY AT BITUMINOUS COAL MINES IN THE UNITED STATES, 1899-1934

(Columns (1) to (6) from annual reports of the U. S. Bureau of Mines; Columns (7) and (8) computed from reports of the U. S. Bureau of Labor Statistics; Column (9) from Report of the U. S. Coal Commission and NRA Code)

Year	(1) Number of men employed (thousands)	(2) Average number of days: Worked	(3) Idle On account of labor disputes[a]	(4) Idle Other causes[b]	(5) Net tons per man per day	(6) Number of commercial mines in operation	(7) Average daily earnings all daymen covered by Bureau of Labor Statistics, sample surveys: West Virginia	(7) Tennessee	(8) Illinois scale inside daymen (tracklayers)
1899	271	234	8	66	3.05	4,000	(c)	(c)	$1.90
1900	304	234	5	69	2.98	(c)	(c)	(c)	2.28
1901	340	225	2	81	2.94	(c)	(c)	(c)	2.28
1902	379	230	7	71	3.06	(c)	(c)	(c)	2.28
1903	416	225	3	80	3.02	(c)	(c)	(c)	2.56
1904	438	202	8	98	3.15	(c)	(c)	(c)	2.42
1905	461	211	2	95	3.24	5,060	(c)	(c)	2.42
1906	478	213	28	67	3.36	(c)	(c)	(c)	2.56
1907	513	234	1	73	3.29	(c)	(c)	(c)	2.56
1908	516	193	11	104	3.34	(c)	(c)	(c)	2.56
1909	543	209	1	98	(c)	5,775	(c)	(c)	2.56
1910	556	217	35	56	3.46	5,813	(c)	(c)	2.70
1911	550	211	2	95	3.50	5,887	(c)	(c)	2.70
1912	549	223	10	75	3.68	5,747	(c)	(c)	2.85
1913	572	238	5	71	3.61	5,776	(c)	(c)	2.85
1914	584	195	13	94	3.71	5,592	(c)	(c)	2.85
1915	557	203	4	101	3.91	5,502	(c)	(c)	2.85
1916	561	230	4	74	3.90	5,726	(c)	(c)	3.00
1917	603	243	4	61	3.77	6,939	(c)	(c)	3.60 Apr., 5.00 Oct.
1918	615	249	1	56	3.78	8,319	(c)	(c)	5.00
1919	622	195	25	88	3.84	8,994	e/ $4.09	e/ $3.21	5.70 Nov.
1920	640	220	6	82	4.00	8,321	(c)	(c)	6.00 Apr., 7.50 Aug.
1921	664	149	3	156	4.20	8,038	f/ $5.87	(c)	7.50
1922	680	142	78	88	4.28	9,289		(c)	7.50
1923	705	179	2	127	4.47	9,331	(c)	(c)	7.50
1924	620	171	7	130	4.56	7,586	g/ $4.93	g/ $3.55	7.50
1925	588	195	2	111	4.52	7,144	(c)	(c)	7.50
1926	594	218	1	92	4.60	7,177	h/ $4.91	h/ $3.35	7.50
1927	594	191	45	72	4.55	7,011			7.50
1928	522	203	8	97	4.73	6,450	(c)	(c)	6.10 Sept.
1929	503	215	(d)	89	4.85	6,057	i/ $4.76	i/ $3.28	6.10
1930	483	187	2	119	5.06	5,891	(c)	(c)	6.10
1931	450	160	3	145	5.30	5,642	j/ $4.57	j/ $3.19	6.10
1932	406	146	13	143	5.22	5,427	(c)	(c)	5.00 Aug.
1933	419	167	9	138	4.78	5,555	k/ $3.85	k/ $2.66	5.00
1934	1/ 450	---	---	---	---	---	---	---	5.00

a Includes strikes, suspensions, and lockouts.
b Includes no market car shortage, mine breaks-downs, and all other causes of lost time except labor disputes.
c No data.
d Less than ½ day.
e Surveys made between January and May.
f Surveys made between October 1, 1921 and February 15, 1922.
g Surveys made between October and December.
h Surveys made between November 26, 1926 and March 22, 1927.
i Surveys made in first quarter.
j Surveys made in first quarter.
k Surveys made in February
l Estimated.

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Prepared by: F. G. Tryon and W. H. Young,
Coal Economics Division,
U. S. Bureau of Mines.
October 27, 1935.

1900 - [illegible] ---	1.11	per ton
1905 - [illegible] ---	1.1[illegible]	" "
1910 - 14 ---	1.1[illegible]	" "

Results for individual years departed somewhat from these averages, the maximum in 1903 at $1.24 per ton and the minimum in 1900 at $1.04. The absence of any appreciable upward trend would appear to favor a conclusion that the extent to which new capacity came into being was hardly justified. Such a conclusion cannot be made without evidence of the profits in the industry during this period and the trend of costs. In this connection the only available lines of evidence are: (a) the trend of wages in unionized areas (wages representing roughly two-thirds of cost) and, (b) costs as reported in the Censuses of Mines and Quarries for 1902 and 1909.

During the period under review, the great bulk of tonnage under union contract was in the Central Competitive Field (comprising Illinois, Indiana, Ohio and Western Pennsylvania) and represented for this period over a third of the national output. Therefore, the changes in wage rates for this area are significant as indicating the trend in wage costs, and hence total costs. The following shows the union scale (basic rate) in Illinois for inside day men (trackmen):

1900 - 02	$2.38 per day
1903	2.56 " "
1904 - 05	2.42 " "
1906 - 09	2.56 " "
1910 - 11	2.70 " "
1912 - 13	2.85 " "

This schedule of rates for Illinois was also adopted, with minor variations, in the other States of the Central Competitive Field and represents, in a general way, the increases in wage rates that took place during this period. These increases are reflected in the labor cost per ton for the industry as a whole as between the years of 1902 and 1909. For these years the labor cost per ton for all production was 70 cents and 78 cents, respectively, according to the results of the Census of Mines and Quarries. The increased cost due to labor alone was therefore greater than the corresponding increase in the realization per ton over this period. The Census reports also show certain other costs besides labor costs, including salaries, supplies and materials, miscellaneous expenses and contract work, but exclude other items such as selling expenses, insurance, taxes, interest, depreciation and depletion charges. The total of costs covered, increased from 84 cents per ton in 1902 to $1.00 per ton in 1909. As between these two years, then, the reported costs increased 8 cents per ton while realization remained at practically the same levels.

It is evident, then, that while the opportunity for, and range of, profits were apparently diminishing during the pre-war

period, capacity was nevertheless growing apace with production. This condition of chronic overcapacity has come to be accepted as a natrual, if not necessary resultant, under laissez-faire economic policy for this industry. The significant point to be derived from the foregoing discussion is that under a condition of expanding markets for coal, as existed prior to the war, and the free play of individual enterprise and competitive forces, the possibility of an economic balance between capacity and consumptive demand appears remote of accomplishment.

Economic Developments from 1916 to 1923

Contrasted with the preceding history of the coal industry, the period from 1916 to 1923 stands out as one crowded with unusual developments with tremendous repercussions throughout the industry, as the events transpired. For a detailed description of these years, reference is made to the annual coal chapters in "Mineral Resources of the United States", published by the U. S. Geological Survey. Among the important features in chronoligical sequence were:

1916 - Car shortage developed in October. Demands of consumers could not be fully met.

1917 - Production jumped to 552,000 tons. Acute car shortage and coal shortage. Establishment of Committee on Coal Production of the Counsel of National Defense to regulate prices.
Fuel Administrator appointed to regulate prices, production and distribution.
Miners granted increased wages to cover increased living costs.
Average realization for 1917 was $2.26 per ton as compared with $1.82 in 1916 and $1.14 for 6-year average from 1910 - 15.

1918 - Car shortage continued through early months.

1919 - Strike of miners, November 1, to December 12, tying up operations employing 415,000 men in 22 States, shortage of coal resulting.
Re-establishment of powers of Fuel Administration to cope with prices

and distribution.

1920 - Switchmen's strike beginning April 1, resulting in acute car shortage.
Runaway prices in spot market.
Wage increase granted by U. S. Bituminous Coal Commission, averaging 27 per cent.
Average realization for the year was $3.75 per ton, the highest for any year in history.

1921 - Acute post-war depression

1922 - General strike affecting 460,000 miners and 73 per cent of productive capacity, lasting almost five months.
Strike of railway shopmen beginning July 1, resulting in acute car shortage.
Average sales realization was $3.02 per ton, second only to that for 1920.

In terms of the problem which later encompassed the industry, the most important developments during the 1916 - 23 period relate to prices, profits, capacity and wage rates.

Prices: Although demand leaped forward in 1916, 1917 and 1918, the effect on prices was accentuated by factors other than the physical capacity of the mines. Difficulties in rail transportation and the supply of cars to the mines made for actual shortage of coal to consumers as well as developing fears of inadequate supplies in the future. The inadequacy of transportation facilities plus the miners' strikes of 1919 and 1922 resulted in a material diminution of the supply of coal that otherwise might have been available for consumption and the maintenance of adequate stocks by consumers. With the uncertainties of coal supply brought about by the events previously listed, prices took a very irregular course. This lack of stability in prices is shown in the following Chart and Table, which give the average monthly spot-prices (sales on the open market). It will be noted that from the middle of 1916 through 1923 the course of spot-prices was very irregular and reached, at different periods, fantastic levels. The important causes of sharp changes are shown on the chart.

The tonnage represented by spot sales ordinarily averages about 25 per cent of the total tonnage, the remaining 75 per cent being sold on contracts and not subject to wide fluctuations in prices. The average realization for all sales (spot plus contract) during this period was as follows:

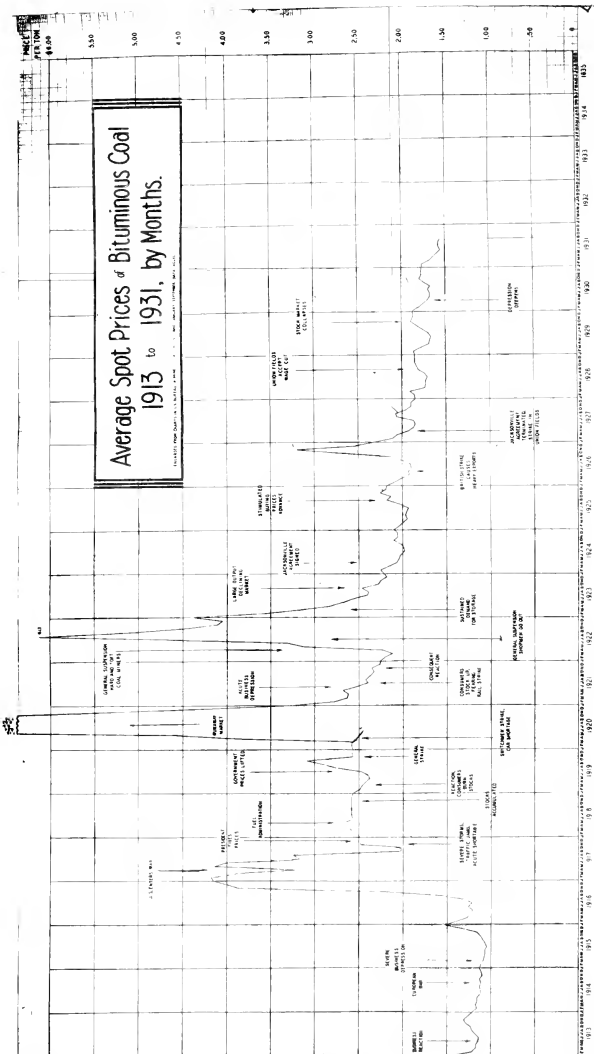
1910 - 15	$1.15 per ton
1916	1.32 " "
1917	2.26 " "
1918	2.58 " "
1919	2.49 " "
1920	3.75 " "
1921	2.89 " "
1922	3.02 " "
1923	2.68 " "

While prices from 1917 to 1923 average well over double those of the pre-war years, labor and supply costs also were advancing. The only evidence of the relative prosperity of the industry is to be found in the reports of the Internal Revenue Bureau of the U. S. Treasury Department.

Profits: The first showing of income data for the industry is for the year 1917. In that and the four succeeding years, the industry reported enormous net profits, aggregating $29,000,000 over deficits even in the depression year 1921, and a quarter of a billion dollars in 1920. Although data are not available for 1922 and 1923, these years were undoubtedly more profitable than 1921, judging from the comparative production and price levels. These huge profits served as inducement to increased investment in the industry. Many operators extended their holdings to the limit of their resources, and the alluring prospects drew in many who previously had had no connection with the industry.

Increase in Number of Mines and Capacity: Although the all-time peak in production was reached in 1918, the continued high prices and liberal profits brought in new increments of capacity until 1923. The following shows the growth in the number of mines, annual capacity, with annual production, days operated and number of men employed from 1915 to 1923: (*)

(*) From annual reports "Mineral Resources of United States", U. S. Geological Survey


Average Spot Prices of Bituminous Coal
1913 to 1931, by Months.
PRICE PER TON $ 6.00
5.50
5.00
4.50
4.00
3.50
3.00
2.50
2.00
1.50
1.00
.50
0
1913
1914
1915
1916
1917
1918
1919
1920
1921
1922
1923
1924
1925
1926
1927
1928
1929
1930
1931
1932
1933
1934
1935

AVERAGE SPOT PRICES OF BITUMINOUS COAL 1913 - 1931, BY MONTHS

	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Yearly Average
1913	1.46	1.22	1.17	1.17	1.15	1.14	1.18	1.22	1.23	1.29	1.31	1.26	1.23
1914	1.21	1.16	1.17	1.16	1.16	1.12	1.12	1.13	1.11	1.13	1.10	1.11	1.14
1915	1.13	1.12	1.09	1.08	1.07	1.07	1.05	1.07	1.10	1.12	1.17	1.33	1.12
1916	1.53	1.40	1.27	1.24	1.21	1.26	1.22	1.30	1.57	2.26	3.87	4.01	1.85
1917	4.15	4.18	3.89	3.21	4.14	4.00	3.17	3.24	2.02	2.02	2.48	2.48	3.25
1918	2.48	2.53	2.58	2.64	2.67	2.57	2.58	2.58	2.58	2.58	2.58	2.58	2.58
1919	2.57	2.49	2.47	2.43	2.38	2.40	2.47	2.76	2.91	3.09	2.57	2.58	2.59
1920	2.57	2.58	2.58	3.85	4.59	7.18	8.24	9.51	8.52	7.78	5.87	4.38	5.64
1921	3.26	2.77	2.63	2.62	2.68	2.52	2.40	2.42	2.37	2.33	2.35	2.26	2.55
1922	2.25	2.20	2.12	2.24	3.11	3.31	4.67	6.13	5.08	4.48	4.11	4.05	3.64
1923	4.38	3.59	3.20	2.84	2.68	2.56	2.40	2.39	2.46	2.28	2.25	2.18	2.77
1924	2.21	2.25	2.15	2.07	2.04	2.03	1.98	1.99	2.02	2.10	2.06	2.06	2.08
1925	2.10	2.04	1.99	1.95	1.97	1.95	1.93	2.04	2.18	2.13	2.26	2.19	2.06
1926	2.18	2.09	2.01	1.92	1.93	1.90	1.91	2.00	2.15	2.70	3.19	2.53	2.21
1927	2.34	2.11	2.06	1.93	1.87	1.85	1.87	2.06	2.07	1.96	1.90	1.90	1.99
1928	1.85	1.86	1.91	1.74	1.73	1.73	1.71	1.74	1.81	1.83	1.85	1.85	1.80
1929	1.85	1.86	1.78	1.69	1.68	1.67	1.70	1.77	1.83	1.90	1.88	1.87	1.79
1930	1.88	1.81	1.75	1.71	1.68	1.68	1.70	1.68	1.75	1.80	1.78	1.78	1.75
1931	1.77	1.77	1.68	1.64	1.60	1.56	1.58	1.58	1.56				

Source: U. S. Geological Survey and U. S. Bureau of Mines.

Prepared by Bituminous Coal Unit
Division of Review, N. R. A.
Under direction of F. E. Berquist

	Production (Millions of Net Tons)	No. of Mines	Annual Capacity at 308 days (Million Tons)	Avg. No. Days Operated	Avg. No. Men Employed (Thousands)
1915	443	5,502	672	203	557
1916	503	5,726	673	230	561
1917	552	6,939	699	243	603
1918	579	8,319	717	249	615
1919	466	8,934	736	195	622
1920	569	8,921	796	220	640
1921	416	8,038	860	149	664
1922	422	9,299	916	142	688
1923	565	9,331	970	179	705

Between 1915 and 1923 the number of mines increased by 4829 and capacity increased by almost 300 million tons. In 1918, the year of peak production, the average operating time was 249 days, the highest for any year of record. Had new developments been halted at that time, the industry would have achieved a greatly improved economic performance. However, during the succeeding 5 years ending with 1923, the number of mines increased by 1,029, and capacity increased by 253 million tons, to the all-time peak of 970 million tons on a 308-day basis. Although 1923 production was only 14 million tons less than that for 1918, the working time averaged only 179 days. Conversly, as the working time diminished additional men were being added to the rolls of the industry, with the result that 90,000 more were employed in 1923 than 1918.

Wage Rates: Wage rates were advanced rapidly during the 1916 - 23 period. It has been pointed out earlier in this discussion that wage rates were moving up gradually during the pre-war years, the rates for skilled inside men in the Central Competitive Field increasing from $2.28 to $2.85 per day, or 25 per cent, between 1900 and 1915. During the ensuing years, the increases were much sharper. Comparison of rates for inside skilled labor (trackmen) for Illinois (unionized) and for Logan and Pocahontas fields in West Virginia (non-union) give the general trend in the Appalachian and Central regions, which embrace over 85 per cent of the nation's total production.

	Illinois a/	Logan Field b/	Pocahontas Field b/
1915	$2.85	$2.22	$1.80
1916	3.00	2.56	1.96
1917	3.60 Apr. 5.00 Oct.	3.30 June 4.00 Dec.	3.40 June 3.73 Dec.
1918	5.00	4.00	3.78
1919	5.70 Nov.	4.00 June 5.44 Dec.	3.73 June 4.80 Dec.
1920	6.00 Apr. 7.50 Aug.	6.00 June 7.04 Dec.	5.60 June 7.12 Dec.
1921	7.50	7.04 June 5.12 Dec.	7.12 June 5.36 Dec.
1922	7.50	5.12 June 7.04 Dec.	4.00 June 6.60 Dec.
1923	7.50	7.04	6.60

a/ From U. M. W. of A. contracts
b/ From U. S. Coal Commission reports. For detailed wage data, see Chapter IV

Status of the Industry in 1923

The year 1923 stands as a line of demarcation between two periods of contrasting tendencies in the coal industry. During 1916 to 1922 the industry was beset with events which greatly modified the earlier trends. The characteristic growth in pre-war production ceased after the forward surge of 1916, 1917 and 1918. Car shortages and far-reaching strikes held in check the normal productive activities of the mines, which in turn made 1916 to 1923 a period characterized by actual or threatened scarcity in the nation's coal supplies. Prices and profits reached levels never remotely approached in pre-war days. As a consequence, new investment in the industry expanded mine capacity tremendously, so that in 1922, in which production was only slightly under the 1918 peak, the excess of capacity was greater than for any year in the history of the industry. The number of men employed also attained an all-time peak.

This condition of great capacity was further accentuated by the

freedom from shortages of transportation facilities. Throughout much of the 1916 - 22 period, the limiting factor in production was the ability to get empty cars at the mines. By the second quarter of 1923, this situation disappeared as a check on mining activities. From that time on the transportation facilities have been adequate to handle any demand on the part of the coal industry. Competitive activity in the coal markets were thus freed from a most important restriction of the preceding years, a restriction which had operated to materially increase and sustain prices of the preceding seven years.

Significant also in terms of developments in succeeding years, was the level of wages in the industry. Generally speaking, the peak of wage rates for the industry as a whole was attained in 1920. In the union areas these continued in force in 1923. In the non-union areas, the rates had dropped materially in 1921 but were restored in 1922, either in their entirety or very substantially, so that these rates were, on the average, not materially below the 1920 levels. As compared with 1915 and 1916, the evidence would seem to support the conclusion that the general wage levels in 1923 were double or more, those of the earlier years. The exact increase is not important - the fact that large increases had occured made possible considerable cuts in the rates in the competitive struggle that developed in succeeding years.

Summarzing the general situation in 1923 we find:

1. The number of mines, number of employees and productive capacity at their all-time peaks,

2. Prices at high levels,

3. Wages at high levels, and

4. Car shortages and other impediments of the preceding years removed.

Hindsight clearly indicates that the developments of succeeding years were inevitable.

Economic Developments from 1924 to 1933

Trend of Production: The peak of production in the industry was reached in 1918 after which the production curve flattened out, with the trend from 1918 to 1929 slightly downward. While details of production and other data for the industry are covered in other chapters, attention is here called to broad changes. The average annual output for 5-year periods beginning with 1911 is as follows:

1911 - 15	—	440,000,000 tons
1916 - 20	—	534,000,000 tons
1921 - 25	—	483,000,000 tons
1926 - 30	—	519,000,000 tons

Only one year, 1926, during the period of deflation, achieved production in excess of 550,000,000 tons, while this achievement was reached in four years of the preceding period, 1917, 1918, 1920 and 1923. This levelling off in production is in marked contrast to the relatively steady growth up to the war. The average annual increase from 1900 through 1918 was approximately 20 million tons per year. It is significant to note that had this annual increment continued until 1929, the production for that year would have been in the approximate magnitude of 800,000,000 tons. The actual production for 1929, a year of exceptionally high industrial activity, was only 535,000,000 tons. Thus, it is seen that during the period under review, the industry did not benefit from the increments of demand so characteristic in the pre-war years.

There is no doubt that many operators and students of the industry expected that the growth of the pre-war days would assert itself again after the post-war readjustments were complete. The failure of this expectation or hope is of fundamental significance in the evaluation of the factors which produced the problem of bituminous coal.

Although the total fuel and energy requirements of the country did increase until 1929, the proportion supplied by bituminous coal decreased. The trends of production and consumption are treated in detail elsewhere in this report. Suffice at this point to mention the major factors which operated to check the growth of coal consumption. Most important has been increased efficiency in the utilization, particularly by large industrial plants, electric public utilities, and railroads. As the result of improvements in fuel burning equipment by steam railroads, the average requirements per 1000 gross ton-miles of freight were reduced by 28.8 per cent between 1919 and 1933; in electric power plants the coal used to generate one kilowatt hour of power was reduced 53 per cent. Changes in the fuel-using industries, such as the substitution of scrap-iron for virgin pig-iron, has reduced the use of coke; the amount of coking coal to smelt one ton of pig iron was reduced 19.6 per cent between 1919 and 1933. The use of by-product ovens in place of the bee-hive coke ovens account for a saving of 19 per cent in that fuel use. Another factor has been the substitution of petroleum products and natural gas, and the rapid development of hydro-electric power, all of which has resulted in considerable displacement in the utilization of coal. The exact measure of the influence of all those factors on the trend of coal consumption is not ascertainable, but the evidence is clear that the aggregate effect has been to appreciably reduce what otherwise would have been the demand for coal.

Mine Realization (Value of Coal, f.o.b. Mines): The prices of bituminous coal went to unprecedented levels during the war and post-war years, and beginning with 1924 and thereafter, until the Summer of 1933, went through a continuous downward spiral of deflation. The following table shows the trend of average mine realization for the industry as a whole:

	Per Ton
1900 - 04 --	$.1.11
1905 - 09 --	1.10
1910 - 14 --	1.14
1915 --	1.13
1916 --	1.32
1917 --	2.26
1918 --	2.58
1919 --	2.49
1920 --	3.75
1921 --	2.89
1922 --	3.02
1923 --	$ 2.68
1924 --	2.20
1925 --	2.04
1926 --	2.06
1927 --	1.99
1928 --	1.86
1929 --	1.78
1930 --	1.70
1931 --	1.54
1932 --	1.31
1933 --	1.34 (*)
1934 --	1.75 (**)

Prices from 1917 reflect the unusual conditions in the industry until 1923. Car shortages, strikes of miners and of railway switchmen and shopmen, zoning and budgeting of the industry under the Fuel Administration, anthracite strike, British coal miners' strike and other factors, along with unprecedented war demands, kept prices at unusual levels. Normal competitive pressure of available capacity against the market demands of this period failed because unusual circumstances thwarted their expression. By the latter half of 1923, we find the beginnings of readjustments from the abnormal developments of the preceding seven years. The enormously built-up capacity for production was then freed to exert its pressure upon a more or less stabilized demand. The result was a continuous deflation from 1924 to the Summer of 1933 (except for the year 1926). From 1923 to 1929 realization decreased one-third, and for 1932 it was less than one-half of 1923. The decline from 1923 to 1929 took place in a period of general business prosperity when the average of commodity prices was relatively stable. Comparison of the index of wholesale prices for all commodities (Bureau of Labor Statistics) with that of average realization for bituminous coal follows:

(Index Number 1923 = 100)

	All Commodities Wholesale Price Index	Bituminous Coal, f.o.b. Mines, Avg. Sales Realization	Bituminous Coal under All-Commodity Index
1923	100	100	0
1924	97.4	82.1	-15.3
1925	102.9	76.1	-26.8
1926	99.4	76.9	-22.5
1927	94.8	74.3	-20.5
1928	96.1	69.4	-26.7
1929	94.7	66.4	-28.3

Financial Losses in the Industry: As a consequence of intense competition and the fall in prices indicated in the preceding paragraphs,

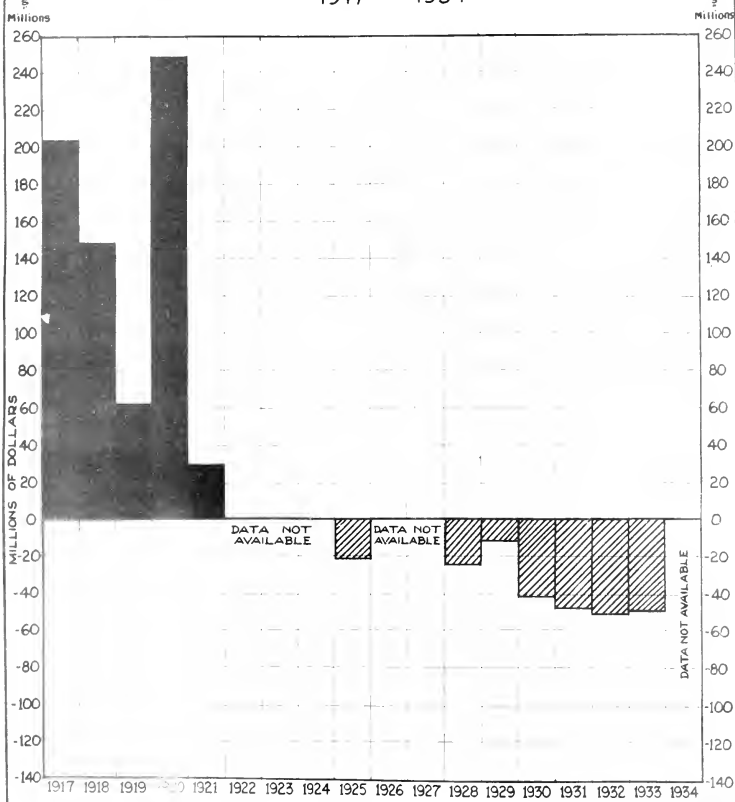
(*) Code adopted October 2, 1933, -- fixed prices thereafter until
(**) May 27, 1935

the bituminous coal industry as a whole showed deficits during the prosperous years for industry generally, which carried through 1929. For three years (1926-28-29), concerning which Bureau of Internal Revenue figures are available for bituminous coal, the industry showed net deficits, that is, deficits of deficit-reporting corporations exceeded the net income of income-reporting corporations. Only 4 other industries in 1928, as classified by the Bureau of Internal Revenue (out of 91 industry groups), namely, woolen and worsted goods, shipbuilding and repairing, aerial transportation and joint stock land banks, showed net deficits during the period 1926 to 1929. This experience of the coal industry is in marked contrast to the five year record of 1917 to 1921, when profits of the industry were enormous. (See following Chart and Table.)

Decrease in Number of Mines and Capacity: The high prices and enormous profits in the industry served as ample inducement for new enterprises to enter upon coal mining and for those already established to increase their productive capacity either by opening new mines or enlarging the rate of output of those already in existence. As a result, the number of mines grew from 5,502 in 1915 to 9,331 in 1923, exclusive of those mines (country banks) whose output was less than 1000 tons per year. After 1923 the number of mines decreased year by year, numbering 6,057 in 1929 and 5,427 in 1933. Productive capacity also followed the same trend, increasing from 672 million tons on a 308-day basis in 1915 to 970 million tons in 1923. It is significant that capacity continued to increase for five years after the peak demand year of 1918, not in terms of increasing demand for coal but in response to the continued high level of prices. Capacity declined to 752 million tons in 1929 and 615 million tons in 1933.

With capacity and demand so far out of balance in 1923 and with the checks of previous years removed, it was but natural that prices should fall. And as prices fell, operating mines found it necessary to curtail costs, go into bankruptcy, or voluntarily retire from operation. The principal item of cost is labor, which is also the one most easily adjusted. In spite of the great downward revisions of wages which took place after 1923, many mines could not survive the continued deflation in prices. The problem of bituminous coal after the inflated war and post-war periods may be considered as focusing on three factors: (1) excess capacity against a limited market, resulting in (2) intense price competition to hold a share in the market, resulting in (3) the breaking down in the wage structure in order to obtain lower costs and preserve existence. The situation thus naturally developed into a vicious spiral. Continued operation was dependent on reducing prices low enough to retain markets; reduction of prices was dependent upon ability to keep costs at a level no higher than prices, in order to remain solvent. Thus developed the situation among producers in which survival meant ability to cut costs and as labor constitutes 60 - 65 per cent of total costs, this item consequently bore the brunt of attack. Moreover, many of the other items of cost such as taxes, supplies, power, insurance and other items, are fixed and outside the power of the operator to cut.

Net Income or Deficit of the Bituminous Coal Industry, Prior to Deductions for Tax, for Specified Years — 1917 - 1934 1/



1/ 1917-1921 U S Coal Commission Report from Treasury Department
1925 Assistant Secretary of Treasury
1928-1932 Bureau of Internal Revenue
1933 Commissioner of Internal Revenue-Preliminary Not Yet Published

PREPARED BY - Bituminous Coal Unit, Division of Review N.R.A. under the direction of H. Arnold

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NET INCOME OR DEFICIT OF THE BITUMINOUS COAL INDUSTRY PRIOR TO DEDUCTION FOR INCOME AND EXCESS PROFITS TAXES FOR SPECIFIED YEARS, 1917 TO 1933.**
ACCORDING TO TREASURY DEPARTMENT DATA.

Year	Total Number Returns	Number Reporting No Net Income	Number Reporting Net Income	Net Income	Deficit	Net Income (or deficit) of Industry
1917 a/	1,234	85	1,149	$204,564,196	$ 645,678	$203,918,518
1918 a/	1,234	128	1,106	150,094,603	1,247,971	148,846,632
1919 a/	1,234	417	817	72,202,962	9,943,268	62,259,694
1920 a/	1,234	82	1,152	251,025,514	1,658,135	249,367,379
1921 a/	1,234	731	503	59,164,099	30,274,905	28,889,194
1925 b/	3,650	2,585	1,065	40,462,955	62,826,452	- 22,363,497*
1928 c/	2,982 e/	1,842	863	33,477,073	57,985,403	- 24,508,330*
1929 c/	2,646 e/	1,535	934	40,068,844	51,890,877	- 11,822,033*
1930 c/	2,356 e/	1,458	781	25,077,232	67,148,274	- 42,071,042*
1931 c/	2,207 e/	1,513	582	9,957,000	57,702,000	- 47,745,000*
1932 c/	1,897 e/	1,575	289	5,956,000	57,123,000	- 51,167,000*
1933 d/	1,996 e/	1,455	396	7,243,000	54,792,000	- 47,549,000*

* Deficit.

** The Industrial classification is based on the predominant business of non-affiliated corporations or of groups of affiliated corporations filing a single return. The business classification, therefore, does not contain solely corporations engaged exclusively in the industries in which they are classified due to the diversified industrial activities of the many corporations and especially to affiliated corporations filing consolidated returns, which latter include the income and deductions of the subsidiary or affiliated concerns.

Data from special compilation of the income tax returns, supplied by the Secretary of the Treasury, and published in United States Coal Commission report, pages 2680-2683. The figures are based on income tax reports of all companies making such reports for which an unbroken five year record was available.

Data furnished by Assistant Secretary of Treasury.
Data from yearly reports of Bureau of Internal Revenue. "Statistics of Income."
1933 data from preliminary figures of Bureau of Internal Revenue not yet published.
Includes a small number of inactive corporations.

Compiled by F.G.Tryon
Coal Economics Div.
U.S.Bureau of Mines

The Center of the Coal Problem: Although other sections of industry passed through similar experience, the main problem in coal has been concentrated on the great Appalachian Region and Central Region, comprising the States of Pennsylvania, Ohio, Indiana, Illinois, Kentucky, West Virginia and Virginia. This area has represented since the war period between 85 and 90 per cent of the total production in the industry. It constitutes the great economic unit or entity of the industry, and the various sections thereof are affected directly or indirectly by the competition of every other section. A drastic wage or price cut in one area eventually, often immediately, makes itself felt in the other areas, through loss of tonnage, price and wage cuts, and an effect on the established flow of coal to markets. Therefore, an analysis of the trends of production, capacity, employment, prices and wages for this area will serve to picture the problem and analyze the nature of the conflicting forces within the industry, with their inevitable consequences.

Shifts in Production from Area to Area: Both a cause and effect of instability in the bituminous coal industry, has been the shifting of production from one area to another, changes in the nature of consumer demand, to strikes, suspensions and lockouts, changes in freight-rate structure, and changes in the competitive relationship in prices. Of these, the most important in cumulative effect has been that resulting from changes in price relationships, which in turn were made possible through disparities developed in the wage structure.

The outstanding example of shifts in production is that which occurred among the seven states under discussion, and took place during the period of the Jacksonville Wage Agreement (1924-27). The explanation of this convulsion within this area, resulting as it did from price and wage instability, goes to the very core of the bituminous coal problem.

The statistical record of shifts in production are given in the following tables and chart. For convenience in these and later tables and charts, the four states north of the Ohio River are labelled Group "A" States, while Kentucky, West Virginia and Virginia comprise Group "B" States. First, attention is called to the record of production from 1898 to 1916. It will be seen that production in Group "A" States increased 188,000,000 tons between the two years, and 119,000,000 tons in Group "B" States. Though in absolute magnitude Group "A" States forged ahead more rapidly, the rate of increase was much greater in Group "B" States. The greater rate of increase is accounted for mainly by the fact that several of the important producing areas in the south were first tapped during this period. Much of the railroad development occurred during this time in the Group "B" States, whereas in the Group "A" States the railroad network was already relatively complete. It is significant to note that production gained simultaneously in both groups during this entire period. In contrast, the increase in Group "A" States ceased with the peak production reached in 1918, while the trend continued upward in the Group "B" States through 1927.

COMPARISON OF PRODUCTION, REALIZATION, F.O.B MINES, AVERAGE DAYS WORKED, AND CALCULATED CAPACITY BETWEEN TWO GROUPS OF STATES EAST OF THE MISSISSIPPI RIVER

1898 - 1933

Year	Production Group "A" States 1/	Production Group "B" States 2/	Total Production Group "A" and Group "B" States	% Group "A" is of Total Production	% Group "B" is of Total Production	Average Value Group "A" States	Average Value Group "B" States	Average Days Worked Group "A" States	Average Days Worked Group "B" States	Calculated Capacity at 308 Days Group "A" States	Calculated Capacity at 308 Days Group "B" States
[illegible]	103,202,042	22,404,181	125,606,223	82.2	17.8	.72	.64	209	214	152,087,000	32,245,000
[illegible]	[illegible] 095,987	25,966,041	147,062,028	82.3	17.7	.80	.65	234	240	159,391,000	33,323,000
[illegible]	[illegible]	[illegible] 349,925	[illegible] 61,452,[illegible]	81.2	18.8	.99	.86	235	231	173,276,000	40,59[illegible]
[illegible]	[illegible]	[illegible] 264,261	[illegible]	81.0	19.0	1.00	.86	[illegible]	223	191,629,000	44,56[illegible]
[illegible]	[illegible]	34,520,803	[illegible] 99,000,861	82.7	17.3	1.08	.94	234	214	216,[illegible]5,000	49,6[illegible]
[illegible]	[illegible]	40,326,580	[illegible] 16,033,857	81.3	18.7	1.20	1.13	[illegible]	214	240,523,000	58,0[illegible]
[illegible]	[illegible]	43,598,148	[illegible]	79.6	20.4	1.02	.92	[illegible]	200	257,964,000	66,0[illegible]
[illegible]	194,[illegible] 6,202	50,499,1[illegible]	[illegible] 44,795,[illegible]	79.3	20.7	.99	.84	213	210	[illegible]	74,05[illegible]
[illegible]	210,[illegible]	57,198,876	[illegible]	78.6	21.4	1.04	.96	232	221	305,951,000	79,73[illegible]
[illegible]	[illegible]	63,555,602	[illegible]	79.6	20.4	1.05	1.01	237	227	321,760,000	86,27[illegible]
[illegible]	203,[illegible]	56,403,436	[illegible]	78.3	21.7	1.05	.96	192	136	329,764,000	43,40[illegible]
[illegible]	231,645,[illegible]	67,298,821	298,944,502	77.5	22.5	.98	.88	a/	a/	a/	a/
[illegible]	249,021,255	82,802,335	331,823,590	75.0	25.0	1.05	.93	218	226	351,829,000	111,855,000
[illegible]	245,201,716	80,745,950	325,947,666	75.0	25.0	1.04	.92	213	221	351,671,000	112,53[illegible]
[illegible]	271,565,[illegible]	91,123,846	362,689,005	74.9	25.1	1.06	.96	229	253	365,249,000	110,935,000
[illegible]	288,766,159	99,698,804	388,464,963	74.3	25.7	1.12	1.02	238	235	373,699,000	131,228,000
[illegible]	241,056,738	100,049,924	341,106,662	70.7	29.3	1.09	1.00	193	201	[illegible] 692,000	153,332,000
[illegible]	256,225,556	106,668,339	362,893,895	70.6	29.4	1.07	.98	209	206	[illegible] 964,000	159,4[illegible]
[illegible]	291,312,507	121,561,598	[illegible] 12,874,105	70.5	29.5	1.29	1.17	233	234	385,083,000	160,00[illegible]
[illegible]	325,[illegible] 33,532	124,336,729	450,272,321	72.4	27.6	2.26	2.26	247	226	406,430,000	169,4[illegible]
[illegible]	344,[illegible] 3,427	131,836,264	[illegible] 76,171,687	72.3	27.7	2.49	2.56	[illegible]	239	422,526,000	169,9[illegible]
[illegible]	[illegible]	118,399,[illegible]	[illegible] 409,176	69.4	30.6	2.35	2.44	[illegible]	[illegible]	43[illegible]	182,3[illegible]
[illegible]	[illegible]	137,040,[illegible]	[illegible] 602,[illegible]	70.9	29.1	3.54	[illegible]	[illegible]	[illegible]	[illegible]	212,1[illegible]
[illegible]	[illegible]	111,867,[illegible]	[illegible] 746,[illegible]	68.0	32.0	2.73	[illegible]	[illegible]	[illegible]	[illegible]	218,[illegible]
[illegible]	[illegible]	133,113,[illegible]	[illegible]	62.[illegible]	37.[illegible]	3.04	[illegible]	[illegible]	[illegible]	[illegible]	230,[illegible]
[illegible]	[illegible]	168,338,[illegible]	[illegible]	[illegible]	[illegible]	2.62	[illegible]	[illegible]	[illegible]	[illegible]	303,[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	2.27	[illegible]	[illegible]	[illegible]	47[illegible] 112,[illegible]	[illegible]
[illegible]	[illegible]	190,2[illegible]	[illegible]	57.[illegible]	42.[illegible]	2.1[illegible]	[illegible]	[illegible]	[illegible]	[illegible] 53,078,[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	55.[illegible]	44.7	[illegible]	[illegible]	[illegible]	[illegible]	42[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	48.5	51.[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	411,[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	51.5	48.5	1.90	[illegible]	[illegible]	220	351,585,000	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	53.8	46.2	1.78	[illegible]	[illegible]	[illegible]	361,108,000	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	54.2	45.8	1.68	[illegible]	[illegible]	[illegible]	363,634,000	[illegible]
[illegible]	[illegible]	151,135,[illegible]	[illegible]	53.9	46.1	1.57	1.31	160	172	340,086,000	272,220,[illegible]
[illegible]	[illegible]	128,600,497	[illegible] 4,084,485	52.3	49.7	1.36	1.05	139	162	300,209,000	[illegible]
[illegible]	[illegible] 059,141	138,622,906	288,680,047	52.9	48.1	1.36	1.14	158	167	292,520,000	[illegible]

1/ Group [illegible] States - Pennsylvania, Ohio, Indiana and Illinois.
2/ Group "B" States - Kentucky, West Virginia and Virginia.
a/ Data not available.

BITUMINOUS COAL LOADED AT MINES FOR SHIPMENT FOR SELECTED STATES, AND PERCENT OF TOTAL

TONNAGE OF THESE STATES LOADED IN EACH OF THE COMPONENT STATES. 1913 - 1934

	Pennsylvania		Ohio		Illinois		Indiana		Kentucky		West Virginia		Virginia		Total
	Tons Shipped	Percent of total of group.	Tons Shipped	Percent of total of group.	Tons Shipped	Percent of total of group.	Tons Shipped	Percent of total of group.	Tons Shipped	Percent of total of group.	Tons Shipped	Percent of total of group.	Tons Shipped	Percent of total of group.	Tons
1913	127,912,594	39.9	33,525,096	10.5	55,779,351	17.4	16,034,285	5.0	18,029,826	5.6	64,058,318	20.0	5,148,433	1.6	320,487,903
1914	114,876,895	39.2	16,397,457	5.6	53,583,390	18.3	15,497,998	5.3	18,896,135	6.5	67,024,189	22.9	6,438,133	2.2	292,714,197
1915	119,176,343	38.5	20,051,585	6.5	54,826,393	17.7	16,031,039	5.2	19,821,392	6.4	72,956,241	23.5	6,948,235	2.2	309,813,828
1916	123,181,649	35.6	31,995,913	9.2	61,486,942	17.8	18,839,568	5.4	23,472,421	6.8	79,760,681	23.0	7,464,797	2.2	346,201,371
1917	128,969,943	33.7	37,462,479	9.8	80,283,345	20.9	24,391,177	6.5	25,671,298	6.7	77,996,698	20.4	7,652,143	2.0	383,017,083
1918	147,469,982	33.4	42,868,610	10.4	83,268,864	20.2	28,961,651	7.1	29,350,941	7.1	81,579,916	19.8	8,143,000	2.0	411,662,964
1919	120,676,960	35.7	33,054,103	9.8	55,540,051	16.4	19,423,744	5.8	27,907,773	8.3	73,672,527	21.8	7,501,205	2.2	337,776,353
1920	134,382,063	32.6	41,757,891	10.2	82,510,029	20.0	27,367,568	6.7	33,334,161	8.1	83,199,005	20.2	9,219,622	2.2	411,770,339
1921	102,035,940	31.8	29,788,393	9.3	64,174,112	20.0	19,116,259	6.0	30,096,762	9.4	68,655,196	21.4	6,818,178	2.1	320,674,240
1922	93,493,528	29.7	24,125,947	7.7	53,604,937	17.0	17,960,212	5.7	40,086,740	12.7	75,895,796	24.1	9,597,715	3.1	314,764,855
1923	138,036,176	32.2	37,182,218	8.7	73,784,367	17.2	24,860,445	5.8	43,043,477	10.0	101,892,706	23.7	10,283,158	2.4	429,082,547
1924	110,240,821	29.6	27,404,951	7.4	63,689,920	17.1	20,338,416	5.5	43,683,182	11.7	97,169,314	26.1	9,756,162	2.6	372,282,766
1925	114,456,238	28.2	24,930,193	6.1	62,712,422	15.4	20,253,156	5.0	53,721,081	13.2	118,191,674	29.1	12,032,321	3.0	406,297,085
1926	128,338,782	28.1	24,871,074	5.5	64,611,578	14.3	22,020,268	4.9	61,291,208	13.5	138,359,940	30.5	13,381,511	3.0	452,874,361
1927	116,025,187	28.4	23,144,136	5.2	42,757,667	10.4	16,754,142	4.1	67,579,996	16.5	140,536,113	34.4	12,234,331	3.0	409,031,571
1928	117,785,042	29.6	12,786,442	3.2	51,513,409	12.9	15,488,382	3.9	60,454,706	15.2	128,671,064	32.3	11,371,792	2.9	398,070,837
1929	127,064,532	29.8	20,840,851	4.9	55,712,372	13.0	17,387,599	4.1	59,125,101	13.9	134,241,631	31.5	12,119,712	2.8	426,491,798
1930	113,885,163	30.3	20,132,937	5.4	48,922,279	13.0	15,235,765	4.0	50,011,859	13.3	117,480,773	31.2	10,414,384	2.8	376,083,160
1931	89,830,912	29.2	18,535,771	6.0	39,957,676	13.0	13,145,525	4.3	38,834,905	12.6	98,316,214	31.9	9,392,855	3.0	308,003,258
1932	68,022,893	27.7	11,972,845	4.9	28,793,563	11.7	12,186,044	5.0	34,229,444	13.9	82,962,472	33.8	7,461,381	3.0	245,618,642
1933	71,526,491	26.7	17,248,755	6.5	31,961,599	12.0	12,411,984	4.6	35,114,331	13.1	91,328,937	34.2	7,892,547	2.9	267,304,644
1934	80,696,259	28.0	* 18,362,000	6.4	*34,974,000	12.1	*13,768,000	4.6	37,283,960	12.9	94,775,558	32.9	9,058,264	3.1	288,518,041

* Estimated on basis of percent that total shipments were of total production in 1933

Source: U S. Geological Survey and U. S. Bureau of Mines.

Prepared by Bituminous Coal Unit
Division of Review, N. R. A.
under direction of F E. Berquist.

Percent of Total Tons Loaded at Mines for Shipment in Selected Competing States —— 1913 - 1934
SOURCE
PREPARED BY
PENNA
OHIO
ILLINOIS
INDIANA
KENTUCKY
WEST VA.
VIRGINIA

9837

Omitting from consideration the trends during the war and succeeding years through 1922, during which unusual circumstances already referred to held sway, the course of production after 1923 deserves special attention. For Group "B" States, production increased from 164 million in 1923 to 221 million tons in 1926, an increase of 57 million tons, while during the same period production dripped 44 million tons in Group "A" States. The pre-war characteristic of simultaneous growth in the two areas was replaced, after 1923, by the most rapid increase ever achieved by the Group "B" States, and large absolute losses in Group "A". Examination of price levels for the two areas sheds significant light on the new trends.

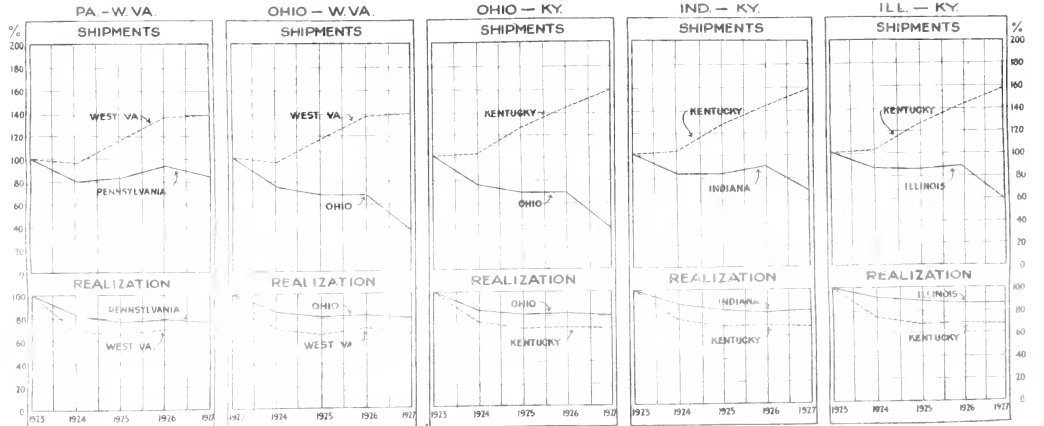
Relation of Price and Shipment Changes: During the pre-war period, the differentials in prices (mine realization) between the two areas remained relatively stable and narrow. For the entire period, the average of annual realizations for Group "B" mines was only 10 cents a ton below that of Group "A" mines, with a maximum of 15 cents in 1899 and 1900. During the 1917 - 1923 years, the average of annual realization was greater for the southern mines than the northern. In the succeeding years the differential in realization favoring the Group "B" States was as follows:

1924	--	38 Cents
1925	--	38 "
1926	--	28 "
1927	--	33 "
1928	--	31 "
1929	--	23 "
1930	--	18 "
1931	--	26 "
1932	--	31 "
1933	--	32 "

These spreads are in marked contrast to those of earlier years and are of such magnitude as to modify the currents of flow in coal in the highly competitive markets. The relationships of prices and the changes in production between the two areas during the 1923 - 1933 period, are shown in the following table and charts.

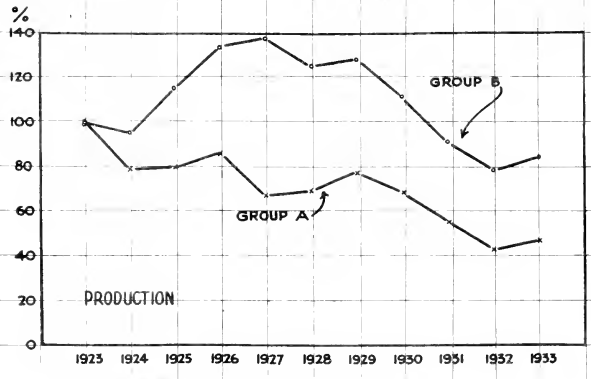
In these the data for realization and production are converted into indexes, with 1923 as base for each series. For 1924 and 1925 the divergence in price levels between the two areas in greatest and reflects the greater ability to reduce prices in Group "B" area. The narrowing of the differential in 1926 reflects the active demand of that year, production being only second to that in 1918. At the same time the relation of the production curves was reversed, the index number for Group "B" rising to 134 and that for Group "A" falling to 86. While the price relationship in 1927 remained practically the same, the production curves grew wider apart, due mainly to the prolonged strike - following the expiration of the Jacksonville Wage Agreement in Group "A" States. In 1928 Pennsylvania and Ohio were non-union, therefore

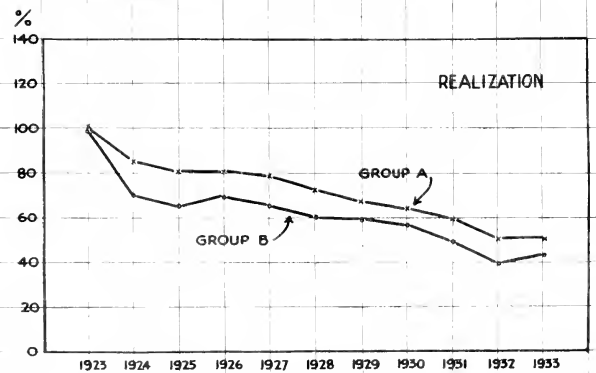
Index of Tons Loaded at Mines for Shipment and Realization F.O.B. Mine, during the Period of the Jacksonville Agreement, for Selected Competing States, —— 1924 — 1927
1923 = 100%



SOURCE – U.S. Bureau of Mines
PREPARED BY – Bituminous Coal Unit, Division of Review, NRA, under the Direction of F.E. Berquist

Comparison of Production and Realization, F.O.B. Mines, between Two Groups of States East of the Mississippi River 1/ 1923 - 1933. 1923 = 100%





1/ Group A States - Illinois, Indiana, Ohio, Pennsylvania
Group B States - Kentucky, Virginia, West Virginia

PREPARED BY: SOURCE: U.S. Bureau of Mines
Bituminous Coal Unit, Division of Review, N.R.A., under the Direction of F.E. Berquist

INDEX OF TONS LOADED AT MINES FOR SHIPMENTS AND REALIZATION F.O.B MINE, FOR SELECTED COMPETING STATES — 1923 - 1933

1923 = 100%

THOUSANDS of NET TONS

PENNSYLVANIA

YEAR	LOADED AT MINES FOR SHIPMENT	INDEX NUMBERS SHIPMENTS	VALUE PER TON F.O.B MINE	INDEX NUMBERS VALUE
1923	138036	100.0	2.75	100.0
1924 *	110281	79.9	2.26	82.2
1925 *	114436	82.9	2.10	76.4
1926 *	128339	93.0	2.13	77.5
1927 *	116425	84.1	2.05	74.5
1928	117785	85.3	1.90	69.1
1929	127065	92.1	1.80	65.5
1930	113885	82.5	1.72	62.5
1931	89831	65.1	1.59	57.8
1932	68023	49.3	1.34	48.7
1933	71324	51.7	1.37	49.8

INDIANA

YEAR	LOADED AT MINES FOR SHIPMENT	INDEX NUMBERS SHIPMENTS	VALUE PER TON F.O.B MINE	INDEX NUMBERS VALUE
1923	24860	100.0	2.48	100.0
1924 *	20338	81.8	2.14	87.1
1925 *	20253	81.5	2.02	81.5
1926 *	22020	88.6	1.98	79.8
1927 *	16354	67.4	2.03	81.9
1928	15488	62.3	1.78	71.8
1929	17388	69.9	1.63	65.7
1930	15236	61.3	1.59	64.1
1931	13134	52.8	1.45	58.5
1932	12184	49.0	1.30	52.4
1933	12412	49.9	1.28	51.6

* PERIOD OF JACKSONVILLE AGREEMENT.

WEST VIRGINIA

YEAR	LOADED AT MINES FOR SHIPMENT	INDEX NUMBERS SHIPMENTS	VALUE PER TON F.O.B MINE	INDEX NUMBERS VALUE
1923	101893	100.0	2.45	100.0
1924 *	97149	95.4	1.82	68.1
1925 *	118192	116.0	1.71	64.5
1926 *	138340	135.8	1.84	64.4
1927 *	140536	137.9	1.72	64.9
1928	128671	126.3	1.59	60.0
1929	134242	131.7	1.55	58.5
1930	117481	115.3	1.50	56.6
1931	98316	96.5	1.31	49.4
1932	82952	81.4	1.06	40.0
1933	91329	89.6	1.14	43.0

ILLINOIS

YEAR	LOADED AT MINES FOR SHIPMENT	INDEX NUMBERS SHIPMENTS	VALUE PER TON F.O.B MINE	INDEX NUMBERS VALUE
1923	73784	100.0	2.50	100.0
1924 *	63490	86.3	2.27	90.8
1925 *	62712	85.0	2.19	87.6
1926 *	64612	87.6	2.14	85.6
1927 *	42758	57.9	2.16	86.4
1928	51513	69.8	2.00	80.0
1929	55112	75.5	1.87	74.8
1930	48922	66.3	1.74	69.6
1931	39958	54.2	1.70	68.0
1932	28794	39.0	1.53	61.2
1933	31982	43.3	1.46	58.4

SOURCE: U. S. Bureau of Mines

OHIO

YEAR	LOADED AT MINES FOR SHIPMENT	INDEX NUMBERS SHIPMENTS	VALUE PER TON F.O.B MINE	INDEX NUMBERS VALUE
1923	37182	100.0	2.43	100.0
1924 *	27405	73.7	2.03	83.5
1925 *	24930	67.0	1.93	79.4
1926 *	24871	66.9	1.96	80.7
1927 *	13148	35.4	1.92	79.0
1928	12786	34.4	1.69	69.5
1929	20841	56.1	1.51	62.1
1930	20133	54.1	1.40	57.6
1931	18536	49.9	1.24	51.0
1932	11973	32.2	1.11	45.7
1933	17249	46.4	1.20	49.4

VIRGINIA

YEAR	LOADED AT MINES FOR SHIPMENT	INDEX NUMBERS SHIPMENTS	VALUE PER TON F.O.B MINE	INDEX NUMBERS VALUE
1923	10283	100.0	2.76	100.0
1924 *	9756	94.9	2.04	73.9
1925 *	12032	117.0	1.84	66.7
1926 *	13382	130.1	1.92	69.6
1927 *	12234	119.0	1.80	65.2
1928	11312	110.6	1.71	62.0
1929	12120	117.9	1.68	59.8
1930	10414	101.3	1.61	58.3
1931	9392	91.3	1.45	52.5
1932	7461	72.6	1.21	43.8
1933	7893	76.8	1.23	44.6

KENTUCKY

YEAR	LOADED AT MINES FOR SHIPMENT	INDEX NUMBERS SHIPMENTS	VALUE PER TON F.O.B MINE	INDEX NUMBERS VALUE
1923	43043	100.0	2.53	100.0
1924 *	43683	101.5	1.88	74.3
1925 *	53721	124.8	1.72	68.0
1926 *	61291	142.4	1.74	68.8
1927 *	67580	157.0	1.73	68.4
1928	60455	140.5	1.34	61.7
1929	59125	137.4	1.58	60.9
1930	50012	116.2	1.49	58.9
1931	38835	90.2	1.27	50.2
1932	34229	79.5	.99	39.1
1933	35114	81.6	1.13	44.7

Prepared by Bituminous Coal Unit, Division of Review, N.R.A., Under direction of F. E. Berquist

able to reduce wage costs and prices. The drop in the level in that year for Group "A" is largely determined by the reductions in those two St tes. However, this drop was met by Group "B" States, so the relationship of prices remained practically the same. The production curves were also affected in 1928 due to strikes in Illinois, Indiana and Ohio adversely affecting the year's showing in Group "A" and favoring Group "B". After 1928, the differential in realization reduced considerably. While prices in general were falling, those in Group "A" dropped more rapidly. As a consequence, the production in these States did not decline as rapidly as that in the southern states. In other words, the trends of 1924-28 were then reversed, both as to realization and production. In the keen competition for markets after 1923, it is apparent that the Group "B" States had a distinct advantage in prices and gained a larger share of the market. The question naturally arises, why were not the Group "A" States able to meet the level of realization of the Group "B" States and thus retain their proportionate share? The principal reason appears to lie in the relative ability to reduce costs of production, thereby creating opportunities for reduction in prices.

Trend of Wage Rates and Labor Costs: Since labor costs constitute 60 to 65 per cent of total costs of production, the relation of wage rates to prices can be readily appreciated. Moreover, much of the remainder of costs is made up of fixed elements, such as royalties, taxes, power, insurance and workmen's compensation payments, etc. It was natural, therefore, that the efforts of operators to meet the price competition should be accompanied by pressure on the most vulnerable part of their costs and the one which offered the possibilities of significant reduction. In the deflation of prices resulting from intense competition after 1923, wage rates were progressively reduced to the low levels of the first half of 1933.

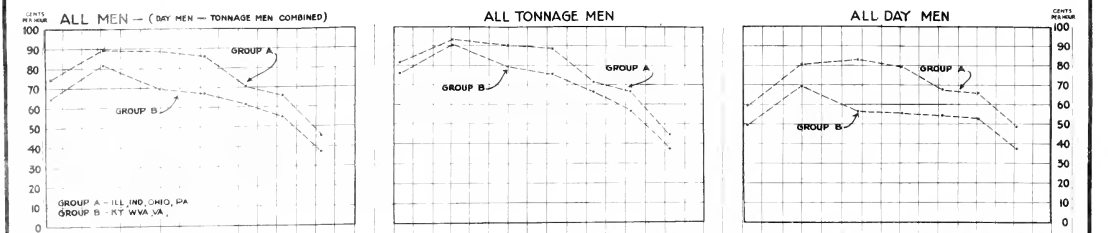
Beginning in 1920, the Central Competitive Field was under contract at the highest level of wages ever achieved. These rates were continued until April 1, 1924, at which time they were extended under the Jacksonville Agreement until April 1, 1927. On the other hand, only four districts had wage contracts in 1920 - Kanawha, New River and Fairmont in West Virginia, and Western Kentucky - and these were only partially under agreements. Contractual relations continued until 1921 in the New River Field; April, 1924 in Kanawha Field; April, 1925 in Western Kentucky. The wage scale in Northern West Virginia was extended by the Baltimore Agreement from April 1,1924, until April 1, 1927. All other areas in Group "B" States, comprising the bulk of production in this area, were without union wage agreements throughout this entire period. Therefore, as far as the influence of wage contracts on the wage scales in concerned, Group "B" States may be considered as practically freed from the restrictions of wage agreements while Group "A" States were tied to contracts.

After the signing of the Jacksonville Agreement in 1924, the Southern States were in a preferred position in cutting prices by reducing wages. In the keen competition resulting from the great excess of mine capacity, the Group "B" States were able to cut further than the Group "A" States, as already described. Within a year after the signing of the Jacksonville Agreement, Western Pennsylvania operators demanded a revision of the contract because of loss of business to southern rivals. Failing this, many of the mines were closed in April, reopening in August on a non-union basis with reduced wage scale. There was also some breakdown in Ohio, and in the Fairmont district of Northern West Virginia. By the end of the contract, all those operators that carried through the Agreement refused to continue and a large strike ensued. As a consequence, all of Ohio and Pennsylvania (with minor exceptions) became non-union and Illinois and Indiana continued their contracts to the end of the coal year, March 31, 1928. After another strike, Illinois and Indiana renewed contracts on a reduced basis of $6.10 per day for the basic inside skilled (trackmen) classification, as compared with the $7.30 rate under the old agreement.

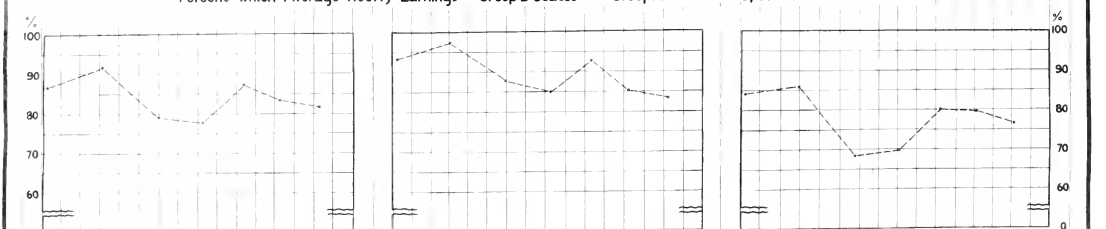
In the meantime, wage rates in the non-union areas of Group "B" had little of permanence or stability in them. As it became necessary to cut costs to keep or gain markets, wage rates became subject to attack.

The best indication of the trend of wage rates is to be found in the series of reports published by the U. S. Bureau of Labor Statistics, entitled "Hours and Earnings in Bituminous Coal Mining", beginning with 1919. In order to simplify the presentation of these data a chart and table have been prepared combining the results for Group "A" and Group "B" States.

Comparison of Average Hourly Earnings between Two Groups of States East of the Mississippi River for Specified Years 1919 – 1933



Percent which Average Hourly Earnings in Group B States is of Group A States for Specified Years 1919-1933



NOTE: Virginia not included in Average for 'B' States in 1933

SOURCE: U.S. Bureau of Labor Statistics
PREPARED BY: Bituminous Coal Unit, Division of Review, NRA under the direction of F.E. Berquist

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COMPARISON OF AVERAGESHOURLY EARNINGS BETWEEN TWO GROUPS OF STATES EAST OF THE MISSISSIPPI RIVER FOR SPECIFIED YEARS - 1919 - 1933 1/

ALL MEN)(day and tonnage combined

	Average Group"A" States	Average Group "B" States	Difference between Group "B" Group "A"	Per Cent Group"B" is of Group "A"
1919 January-May	.745	.647	- .098	86.8
1921-1922 Oct.1-Feb.15	.894	.819a/	- .075	91.6
1924-October-December	.885	.699	- .186	79.0
1926-27--Nov.26-Mar.22	.860	.670	- .190	77.9
1929-1st quarter	.707	.616	- .091	87.1
1931-1st quarter	.662	.552	-.110	83.4
1933-February	.458	.374	- .084	81.7

	ALL TONNAGE MEN				ALL DAY MEN			
	Average Group"A" States	Average Group "B" States	Difference between Group "B" Group "A"	Per Cent Group "B" is of Group "A"	Average Group"A" States	Average Group "B" States	Difference between Group "B" Group "A"	Per Cent Group "B" is of Group "A"
1919-Jan-May	.815	.760	- .055	93.3	.592	.498	- .094	84.1
1921-22 Oct 1-Feb 15	.936	.910a/	- .026	97.2	.809	.695a/	- .114	85.9
1924-Oct-Dec.	.908	.798	- .110	87.9	.831	.568	- .263	68.4
1926-27-Nov 26-Mar 22	.832	.755	- .133	85.0	.795	.555	- .240	69.8
1929 - 1st quarter	.718	.666	- .052	92.8	.681	.545	- .136	80.0
1931 - 1st quarter	.667	.568	- .099	85.2	.661	.527	- .134	79.7
1933 - February	.448	.374	- .074	83.5	.489	.375	- .114	76.7

SOURCE: U. S. Bureau of Labor Statistics

1/ Group "A" includes; - Illinois, Indiana, Ohio, Pennsylvania. Group"B" includes: - Kentucky, Virginia, West Virginia.

a/ Does not include Virginia

Unfortunately the data on hourly earnings are not available for each year, and represent only the earnings at the period in which taken, therefore failing to note variations within the year. Considering first the earnings for all men in Group "A", it will be seen on the chart that hourly earnings continued fairly constant from the 1921-22 observation until the 1926-27 observation. The straight drop reflects the breaking away by some producers in Group "A", notably in the Pittsburgh district, beginning in 1925. The observation in 1929 shows a marked decline from 1926-27, showing the break which took place after the expiration of the Jacksonville Agreement in 1927. Contrasted with the trend in Group "A" States, we find a sharp break after 1921-22 in the Group "B" States, which reflects the exercise of freedom to modify wage scales in the latter area. The disparity in the hourly earnings attained in 1924 continued with slight change until the 1926-27 observation. Thereafter the spread in hourly earnings materially lessens as shown in the observation for 1929. Thereafter, the disparity remains relatively constant, the cutting in wages in one area being offset by decreases in the other. After 1927, the two curves fairly nose-dive, so that by 1933 hourly earnings in Group "A" States were 49 per cent less than in 1921-22 and 54.3 per cent less for Group "B" States.

The ratios of hourly earnings in Group "B" States to those in Group "A" are shown also in the table and chart. Falling from 91.6 per cent in 1921-22 to 79 per cent in 1924, the level dropped slightly in the 1926-27 observation and rose sharply in 1929, followed by further decline.

Financial Status of Industry 1924 - 1933: In the process of declining prices and liquidation of wages, what of the financial picture of the industry? Referring again to the Chart and Table following page no.__, the story of income as reported by the Bureau of Internal Revenue is shown. Unfortunately data are not available for bituminous coal alone for several of the years, but it should be noted that for the generally prosperous years of 1928-29, the industry showed considerable net deficits.

Summary of 1924 - 1933 Period: From the discussion of shifts in production, prices, wages and financial status of the industry, it is clear that these elements are closely interwoven in the fabric of the industry. The evidence indicates that the industry is one of chronic over capacity, which in turn results in intense competitive pressure to gain a share of a limited market. In order to gain and hold a share that will afford reasonable running time and costs, prices are slashed to satisfy a buyer's market, and with the lowering income from coal sales the wages of miners must be slashed.

In a situation in which a part of the industry is under wage agreement and another is not, the former is placed at the mercy of the latter. Without any stabilized wage or price levels, the industry is

doomed to endless confusion and despair, as witness the developments after 1927. It is often argued that the industry should be permitted to carry out its competitive struggle to the bitter end, thus eliminating the economically weak units. This process continued for ten years after 1923 without any approach to a stabilized condition. In 1932, the capacity of mines in operation was about double the requirements of that year. With any improvement in demand and in prices, many idle idle mines representing millions in capacity are ready to return to active operation and continue the previous chaotic conditions. If mines were automatically and permanently withdrawn from future activity by virtue of inability to withstand financially the stress of declining prices, the argument for liquidation might be acceptable. But inability to meet fixed obligations often merely results in financial reorganization and the wiping out of all or part of these obligations, and continuation in operation. The inability to maintain wage levels offers but the choice of reduction of wages or closing down. In most instances miners as well as operators are willing to concede that a half loaf is better than none, and so the wages are forced within the limits imposed by an ever declining realization for coal.

CHAPTER II

I. THE FORMULATION OF THE CODE OF FAIR COMPETITION UNDER THE NATIONAL INDUSTRIAL RECOVERY ACT OF 1933

Activities in the coal industry looking toward the formulation of a Code of Fair Competition were initiated at an early date, preceding by some two weeks the passage of the National Industrial Recovery Act. On June 5, 1933 over a hundred coal operators assembled in Washington on the occasion of a meeting of the National Association of Manufacturers. They were addressed by General Johnson. A Committee was named "to prepare the outline of a Code that would serve as a guide to all producing fields that decided to submit a code to the Government". This suggested code was mailed to the membership of the National Coal Association that same week. On June 15 this Committee reported to the National Association meeting at Chicago. (*) This so called model code was later described as "a very general and much expurgated affair practically ignoring the controversial points in connection with collective bargaining, hours, wages and prices". (**)

By June 24 it was reported that code work was making substantial progress. Meetings were in progress or arranged for: at Denver for the Colorado - New Mexico operators, for Utah and Southern Wyoming operators; at Fort Smith for the Arkansas - Oklahoma Association; for Kansas-Missouri operators who had reached an agreement in wages and hours with the United Mine Workers; at Terre Haute for three Indiana operators' associations; at Pittsburgh, attended by operators from Western Pennsylvania and Ohio; at Washington, D. C. of Central Pennsylvania operators; at Cumberland, Maryland for Georges Creek and Upper Potomac operators; Smokeless operators met at White Sulphur Springs and arranged a conference with Appalachian operators; and Alabama coal mine operators met a Birmingham. The National Coal Association forecast the submission of codes presented with substantial accuracy, predicting five major districts:

> Rocky Mountain District - Utah, Montana, Wyoming, Colorado and New Mexico.
>
> Southwest - Arkansas, Oklahoma, Kansas, and Missouri.
>
> Central - Iowa, Illinois, Indiana.
>
> Northern - Ohio, Pennsylvania, Maryland and Fairmont, W.Va.
>
> Southern - Southern West Virginia, Virginia, Eastern Kentucky and Tennessee.

The reporter pointed out that this left several states unprovided for: Washington, North Dakota, Texas, Alabama, Western Kentucky and Michigan. (***)

(*) Bulletin No. 1137, National Coal Convention, June 10, 1933.
(**) By Mr. George Harrington, Code Hearing Transcript, August 10, 1933, Vol. II, p. 228.
(***) National Coal Association Bulletin No. 1139, June 24, 1933.

In the outcome the National Recovery Administration received for consideration only one code intended to be of general application. This was filed July 13th, was known as the "general code" and resulted from extended deliberations by a group of bituminous operators and United Mine Worker Union representatives. The operators were active in the "States of Pennsylvania, West Virginia, Ohio, Indiana, Illinois, Michigan, Tennessee, Kentucky, Arkansas, Oklahoma, Colorado, Montana, and Wyoming". They claimed to produce "in the aggregate a substantial proportion of the bituminous coal tonnage of the United States." (*) The other codes submitted were intended to be of regional or local application. Measured by tonnage represented, largest importance attaches to the code jointly presented by the Northern Coal Control Association with membership in Pennsylvania, Ohio and Northern West Virginia, producing some 60 per cent of the total tonnage in that area in 1932, and the Smokeless and Appalachian Coal Association including operators producing 70 to 75 per cent of the bituminous coal for those fields. For convenience this will be referred to as the "Appalachian Code". Other important districts filing codes were the Rocky Mountain and Pacific fields, which, with the exception of the State of Washington, had combined in a single code except for difference on wage scales. These codes were submitted by the following associations:

COLORADO AND NEW MEXICO COAL OPERATORS ASSOCIATION, voluntary association of representative producers and wholesale distributors of Colorado and New Mexico coal;

NORTHERN COLORADO COAL PRODUCERS ASSOCIATION, voluntary association of representative producers and wholesale distributors of Northern Colorado coal;

UTAH COAL PRODUCERS ASSOCIATION, a corporation organized and existing under the laws of Utah, its membership comprising a representative group of producers and wholesale distributors of Utah coal;

SOUTHERN WYOMING COAL OPERATORS ASSOCIATION, a voluntary association of representative producers and wholesale distributors of northern Wyoming coal;

MONTANA COAL OPERATORS ASSOCIATION, a voluntary association of representative producers and wholesale distributors of Montana coal, and

WASHINGTON COAL OPERATORS ASSOCIATION, a voluntary association of representative producers and wholesale distributors of Washington coal.

As noted, the Washington Coal Operators' Code was different in content from the general model.

Southwestern Coals, a voluntary association of operators claiming to represent "over 75 per cent of the tonnage of bituminous coal in the States of Missouri, Kansas and Oklahoma", presented a code on July 27th. The failure to secure the adherence of Arkansas and Texas will be noted. Operators in Alabama whose combined tonnage amounted to 75 per cent of the commercial production of the State, submitted a code which is best regarded as an expression of the views of operators in the Southern Field. The letter of

(*) Testimony of George B. Harrington at Coal Hearings, Transcript Vol. II, p. 223.

transmittal, dated July 26th, asserted "no general code has been suggested or can be proposed which would bear any reasonable relation to the existing or prospective conditions affecting the Alabama commercial coal industry or capable of effective enforcement with reference to that coal field, either as to the emergency or permanently".

The expected Central Code failed to materialize. For this result several factors were responsible. Several of the most influential Illinois operators had shared in the formulation of the general code. The operators of both Indiana and Iowa found their interests divergent from those of Illinois and in each state there existed a triangular competitive situation which extended beyond the area comprehended in the Central district. Iowa's severest competitors were Missouri and Illinois; Indiana's were Illinois and Western Kentucky. (*) Codes were sent in from both Iowa and Indiana. These, however, were so largely quoted from the general code as to be in effect the same code. The principal point of difference, aside from the wage levels proposed, was in the more advanced statement on the establishment of minimum prices. Wage proposals are discussed in Chapter IV and will receive only incidental mention here.

Operators in Illinois who had made contracts with the Progressive Miners Union, formed an organization known as the Coal Producers' Association of Illinois and submitted a code which followed exactly the phraseology of the general code except for the substituting of the wages in their agreements with the Progressive Miners Union for the minimum wage standards of the original document.

Operators in the State of North Dakota through their Independent Lignite Operators' Association, worked out and submitted, August 30th, a code based on the peculiar conditions and problems encountered in that State. The letter of transmittal contained the following apology:

> "In submitting this Code, I shall be frank to admit that in some details the Code will not measure up to the requirements and conditions of the National Recovery Act. In that connection I wish to inform you that the State of North Dakota has suffered from drought and adverse weather conditions for the last three years; that our farmers, laboring-men and business-men are all in equally depressed financial circumstances. Therefore, it would create a hardship on a large part of the populace of North Dakota to increase the cost of coal and fuel sufficiently to make possible any material advance in wages. However, the prices embodied in the Code submitted are slightly in excess of what has been paid in nearly every mining district. Then, on the other hand, the operators who are represented, and who are a party of this association, are small mine owners ... most of them serving a local trade territory, being termed 'wagon and truck mines', who are compelled to sell their coal in competition with the large strip mine operators whose labor cost per ton is comparatively

(*) These triangular situations are discussed more at length in Chapter VI

> small compared to the independent operators ... the latter not being affected by an increased labor cost. In addition to the above handicaps, the large strip mine operators have been enjoying a free rein in their discriminatory method of selling coal; they are selling coal within hauling distance of the wagon and truck mines at a price much lower than their general price."

Various sub-marginal district, mainly operated by hand methods, submitted codes. Their chief interest was in wage differentials and these documents seldom made significant contributions to the principles of code making. In most cases these codes can be dismissed with very brief discussion.

The Coal Control Association of Georges Creek and Upper Potomac subscribe to the Appalachian Code. Their sole reason for a separate presentation was the matter of wage differentials.

The Preston County Coal Operators Association of West Virginia presented a fairly complete code, based on the model sent out by the National Coal Association. It incorporated the current wage standards of the district.

Southern Ohio Coals, Inc., comprising a representative group of producers and wholesale distributors of bituminous coal from Southern Ohio, submitted a code closely similar, except for wage standards, to that from Preston County.

Operators of coal mines in Hamilton, Sequatchie, Bledsoe, and Rhea Counties in Tennessee, and Walker and Dade Counties in Georgia also followed this model. Their code was signed by ten operators and no formal organization seems to have been formed. With one exception, all these mines were hand operated and "practically none of the coal was shipped interstate". Although a different code was presented, the subscribers professed their willingness to agree to all provisions of the Appalachian Code, except the wage clauses.

The West Kentucky Coal Association presented a Code of like content. Their chief interests seem to be two; the wage standards, and the matter of administration, which they wished to be under the direction of the Board of Directors of the Western Kentucky Coal Associations.

The Off Railroad Coal Mine Operators of Saline, Jackson, Williamson and Jackson Counties, Illinois, 117 in number, submitted a code with original provisions. They felt that small mines such as they operated must have a wage differential in order to compete with the large operators. Although their organization was local they seemed to have hoped for a national administration for "Off Railroad" mines. The Code provides for Divisions of the Off Railroad Coal Mining industry with separate administrative agencies. These were to send representatives to an Emergency National Committee which was to be the "general planning and coordinating agency for the industry".

The Vermilion County, Illinois, Small Coal Operators' Association was a similar group. They aspired to represent 113 such mines in the county, employing 950 men and producing 250,000 tons of coal in 1932. They presented the model code.

The Progressive Miners' Union submitted a document headed: "A Statement

and Information Relative to the Activities of the Progressive Miners of America, including a Code of Fair Competition". Judged as a code, it was a very fragmentary document having no proposals on marketing or administration, but confined to labor relations, to support of the Progressive organization, and to suggestions that during the continuance of the "present national emergency" employment should be increased "by the substitution of hand labor for machinery whenever possible".

The Coal Operators Association of Appanoose and Wayne Counties, Iowa, indorsed the general code and asked for recognition of their district as one entitled to a differential below the base rate "due to mining conditions".

Three small coal companies in Jefferson County, Colorado, each employing at a maximum less than 35 men, had been advised by the Northern Colorado Coal Producers Association that they were not acceptable as members of that organization "due to differences in situation, mining operations and coal veins". Accordingly they formed the Littleton Colorado Coal Operators Association and submitted a code. This code, however, was the standard Rocky Mountain Pacific one without even such elementary modification as might have adapted it to this situation of the small group. The only distinguishing feature was in the wage proposals.

The above summary statement will disclose that the multiplicity of codes, sometimes stated as 28 in number, submitted for the Bituminous Coal Industry, is reduced to four essential forms: the general code with which the Iowa Code, that of the Coal Producers Association of Illinois and of Wayne-Appanoose are in agreement; the model code followed exactly or in large part by Southwestern Coals, the Coal Trade Association of Indiana, the Western Kentucky Coal Association, Southern Ohio Coals, the small mine owners of Vermilion County, Illinois, and the Preston County Coal Operators Association; the Appalachian Code, subscribed to by the Coal Control Association of Georges Creek and Upper Potomac and the Southern Tennessee and Georgia operators; and the Rocky Mountain Pacific Code, subscribed to by the western states and which was adopted by the three operators from Jefferson County, Colorado. The Code presented by the Coal Producers Association of Washington calls for some correlating comment. Those for Alabama, the Illinois Off Railroad Coal Mine Operators, and North Dakota are highly original in content, deeply stamped with the convictions of their operator authors and an outgrowth of indigenous conditions and problems.

For convenience, the following topical discussion of the contents of proposed codes follows the outline furnished by the general code. North Dakota's Code is sui generis and is reserved for discussion in a separate paragraph. Wage matters are referred to the chapter dealing with wages. Details of minor significance are, of necessity, omitted. After a general declaration of intention to effectuate the purpose of **N. I. R. A.** this general code in section I declares its general purpose of stabilizing the coal industry. A sentence may be quoted: "Fair and constructive competition is to be encouraged, but unfair competition must be eliminated." There is a cautionary paragraph as to the importance of labor costs and the dangers arising from competitive fuels and other sources of energy.

The geographical basis proposed for administration deserves full statement because of its relation to that established in the approved Code:

Northeastern Division	The New England States, the States of New York, New Jersey, Delaware, Pennsylvania, Maryland, Ohio (except the City of Cincinnati), and Michigan, and the coal fields of Northern West Virginia lying north of the Kanawha district.
Appalachian Division	Virginia, the high volatile field of Southern West Virginia, the Pocahontas, Tug River, Winding Gulf and New River low volatile fields of Southern West Virginia; that portion of Kentucky lying East of a North and South line drawn along the West line of the City of Louisville, and the States of Tennessee, Alabama, North Carolina, South Carolina, Georgia, Florida, Mississippi, the District of Columbia and the City of Cincinnati, Ohio.
Central Division	Indiana and Illinois, that portion of Kentucky lying West of a North and South line drawn along the West line of the City of Louisville, and the States of Iowa, Wisconsin, Minnesota, North Dakota, South Dakota and Nebraska, and the City of St. Louis, the County of St. Louis and the City of St. Charles, Missouri.
Southwestern Division	Missouri (except the City of St. Louis, the County of St. Louis and the City of St. Charles), and Kansas, Arkansas, Oklahoma, Texas and Louisiana.
Western Division	Montana, Wyoming, Colorado, New Mexico, Arizona, Utah, Nevada, Idaho, Washington, Oregon and California.

Machinery for administration was proposed, consisting of a central Bituminous Coal Industry Board of five; two operators designated by N.R.A. Industrial Advisory Board; two representatives of labor named by the Labor Advisory Board; and a fifth member named by the Administrator. All matters affecting the administration of the Code were to be heard by the Board whose rulings were to be "final and conclusive". Each of the five Divisions was "to establish its own administrative agency or agencies for the determination of its own business affairs with appeals from this agency's rulings to the Bituminous Coal Industry Board. Subdistricts might be established if deemed advisable by the Divisions. Thoughtful critics will find these provisions slight for the management of an industry as complex and far flung as the Bituminous Coal Industry. Nevertheless they represent the high water mark for administrative provisions in the codes submitted. The codes following the model furnished by the Operators' Committee frequently omit any reference to

administrative problems. When mentioned, power is lodged in the operators' association concerned, which "shall have all the powers necessary and proper to effectuate its purposes". The Alabama Code lodged control in the Board of Governors of the Alabama Mining Institute. There, as in the Appalachian Code, some agency for joint control was obviously necessary, a Central Code Committee was proposed. But the operators were chary of delegating authority. This Central Committee was limited to "the administration of such matters of common interest to both territories as may be specifically referred to it for that purpose by the respective Code Administration Committees". The Rocky-Mountain-Pacific Code is especially interesting at this point. The various districts were stated above. "Each party to this Code", reads that document, "is pledged to the enforcement of its provisions". Each district, by its own methods, was to select a District Control Committee to administer and police the provisions of the Code and "make such regulation as may be necessary to carry out the intentions of this Code". There was also provision for a Central Advisory Committee consisting of two members from each district. Consider the statement of its authority: "It shall be the duty of the Central Advisory Committee to consider and attempt to adjust and harmonize all problems which may arise under the Code as between the several districts." The Washington Code omits even such shadowy delegation of centralizing authority. The Code is to be administered by the Board of Trustees of the Coal Producers Association of Washington. There were, however, to be five divisions in the State, each with a district committee whose acts were subject to revision by the Board of Trustees. Such weakness of central administration, joined to the numerous cases in which districts of minor importance in coal production, jealously sought independence of control, are highly significant in the light of the provision for administration later included in the approved code and of the troubled and ineffective administrative history of that code.

As a feature of administrative control, the provisions for the filing of reports by operators may be mentioned here. This was a matter generally touched upon. But the requirements varied from the general code which read: "Each employer shall furnish reports to the designated agency in such substance and form as may from time to time be required" to carefully hedged statements that the officials of the district coal association should be the custodian of the reports and should determine their character and content. All the codes agree in providing for secrecy for the individual reports.

In the matter of hours the Codes were in substantial agreement on daily hours set at eight. Exceptions are found in the Progressive Miners Code, the Off Railroad Operators of Illinois Code and in the presentation of the case of the United Mine Workers. (*) It may be noted in passing that the Progressive Miners controlled the region from which the 6-hour day and 30-hour week proposal originated. All the groups not proposing the 8-hour day favored this schedule and this was the only exception stimulated by the United Mine Workers to the general code. (**) On weekly hours wide divergence developed. Indiana operators stood alone with a proposal for 32 hours per week. Since these maximum hours were conditioned upon the establishment of competitive hour and wage scales in Ohio, Western Pennsylvania, West Virginia, Virginia, Tennessee and Kentucky, this was not a firm commitment on the part of the Indiana producers. The general code and Wayne and Appanoose Counties, Iowa, suggested 6 months at 32 hours per week and 6 at 40 hours. Proposals for 40 and 48 hours had the adherents indicated below:

(*) Transcript of Code Hearing, Vol. II, pp. 346 et seq.

(**) See the letter of transmittal.

40 Hours	48 Hours
Appalachian Code	All Rocky Mountain-Pacific districts except Washington but including Littleton.
Southwestern Code	Iowa
Alabama	Southern Ohio
Washington	Tennessee and Georgia
Western Kentucky	Illinois Coal Producers Association
Preston County	Vermilion County, Illinois

North Dakota operators nominally proposed a 40-hour week but there was a provision that "any employee may from time to time work a 48-hour week so long as his average 40-hour week is not exceeded through any 16 weeks period". Familiarity with the peculiar conditions existing in North Dakota's lignite industry will suggest that with this exception the 40-hour week would seldom prove burdensome to North Dakota operators. As a sample of numerous exception to the 8-hour day, further reference may be made to this code. Supervisory staff and monthly employees were to "work the number of hours required for the proper completion of their work in accordance with the customary practice"; employees transporting men and coal "the additional time necessary" to handle the men and all coal mined in the 8 hours of actual work; outside employees we to work the additional time necessary "to dump and prepare the coal delivered to the tipple each day". Besides all this, there was a clause to cover accidents or emergencies. (*) The Appalachian Code included these exemptions an also carried a provision for working a 48-hour week at will so long as the 40-hour weekly average was not exceeded in any year. Such exemptions will have a familiar ring to anyone experienced in the business of code formulation.

The weekly hour proposals were affected by the nature of demand. Fields which served the domestic trade most largely were inclined to put a high limit on hours in order that the highest seasonal demand might be met. This tendenc was at the maximum in the Rocky Mountain areas where extremes of temperature and of distances transported were found. This was the argument of the positive brief presented August 1, 1933 by operators in Southern Wyoming relating to hours of work to be determined in the proposed code for bituminous coal. "The purpose of this brief", said the operators, "is to show conclusively the necessity for maintaining a work day of eight hours in the coal mines of Wyoming, and likewise to continue the privilege of working a maximum of six days per week during the brief peak demand periods when work is available." In the case of lignite and sub-bituminous producing fields such as Northern Colorado and North Dakota, this problem was intensified by the difficulty, or impossibility, of producing in anticipation of demand and storing this fuel since its high moisture content causes excessive degradation.

As would be expected of a code formulated under United Mine Worker auspices, the general code included liberal standards on conditions of employment. It incorporated Article 7a without qualifications; provided for a universal 2000 pound ton for checkweighmen; for semi-monthly wage payments "in lawful money or pay checks; for the check off of union dues; for freedom from requirement to trade at company stores or to live in company houses; and for the making of district agreements. In contrast to these liberal provisions was the child labor clause: "No person under 16 years of age shall be employed inside a mine". To the Southwestern Code belongs the honor of proposing an 18 year minimum age limit for employment "in or about a mine". Claims to

(*) Cf. the Littleton Code.

honorable mention are weakened, however, by the use of the hoary legalistic device limiting responsibility for violations to those "knowingly" violating this clause.

Other codes formulated under exclusively operator auspices displayed distinctively anti-union tendencies and gave grudging compliance to the requirement that Article 7a be incorporated in the codes. Thus the Appalachian Code, representing about two-thirds of total production, added the following two paragraphs:

> "The foregoing provisions shall apply to each employer in his relations to his own employees, but no employer shall be required to deal jointly with other employers, or with representatives of any employees other than his own, and any collective bargaining shall be on behalf of only those employees participating therein, the employer being free to deal separately with any other of his employees not so participating.
>
> "Sec. 2. It is a condition of this code that no person shall be required to join any labor organization to secure or retain employment or to receive the benefits of this code; and the right of every individual to refuse to join a labor organization, and his right to bargain with his employer either individually or collectively with his fellow employees, free from the interference, restraint or coercion of any labor organization or its agents, are hereby expressly recognized."

The Western Kentucky Code also incorporated these provisions. The Southwestern Code had a substitute for the first of those two paragraphs reading:

> "It is expressly understood by and between all of the subscribers hereto that no provision of this code has been adopted with any intent whatsoever to limit, abridge or destroy the right of employer and employee to continue to bargain individually or collectively as they may mutually agree upon."

The Alabama Code stated the position of its adherents unequivocally and pushed its statement to a logical conclusion in a demand for "employee representation" systems or, more bluntly stated, for company unionism. As a representative and frank proposal from a center of non-union production this statement is quoted in full:

> "For the reasons stated in Section 1, the acceptance of said conditions shall not be construed as abrogating the unanimous conclusion and understanding of the members subscribing to this Code that it is in the interest of the public, of the coal industry, and its employees, based on many years of harmonious relations and freedom from centralized or standardized interferences directed from other regions (a) that the plants of the members shall be open to capable workmen,

without discrimination by reason of their membership or non-membership in any labor organization; (b) that the employees of members shall be equally as free from interference, restraint or coercion to join as not to join any labor organization and that the right to freedom from such coercion shall not be waived by this Code; (c) that no member shall be under any obligation to deal with any labor organization, or its representatives, directly or indirectly, which shall violate these principles; (d) that no requirement of any organization or representation of employees shall be received or considered which would have the effect of violating or concurring in the violation of the State law or rules adopted pursuant thereto or unlawfully delegating the duty or responsibility of the employer under the law; and (e) that the conditions adopted shall not impair in any particular the rights of employer and employee to bargain individually or collectively as may be mutually satisfactory to them or prevent the selection, retention or advancement of employees based on their individual merit without regard to their affiliation with any organization.

"Section 3. In addition to any means of discussion or negotiations established consistently with Sections 1 and 2 of this Article, each member shall establish and maintain a plan and system for employee representation, to the end that discussion of wages and working conditions may be conducted and concluded promptly between the member and the employees of each member (or their representatives) who shall be informed of local conditions and are directly affected, such plans to be submitted to and subject to approval or modification by the Board to assure their adequacy."

There was a large amount of agreement in regard to sales policies. The standard proposal was that it should be deemed a violation of the Code to sell below "the fair average cost of production and sale (of the producer) plus a reasonable margin of profit". Costs were to be computed "in accordance with standard accounting practice and the rules and regulations promulgated by the Bureau of Internal Revenue for the determination of Federal income taxes". Both the general code and the model codes as well as codes based on them contained standard contract clauses.

Such provisions for price control appeared in the great majority of the codes. Indiana operators added the phrase "and the cost of competing fuels" to the fair average cost of production. Southwestern Coal preferred the "mine run cost of production" as a basis for price making. They added a provision to the effect that "the Board of Directors shall, from time to time, determine fair and reasonable minimum prices on the several grades, sizes and classifications of coal". This was concurred in by the Indiana and Wayne and Appanoose Codes. The Appalachian, Western Kentucky and Alabama Codes also provided for the fixing of minimum prices but preferred that the responsibility be lodged in a Marketing Agency formed on the model of Appalachian Coals and including "coal producers representing the major portion of the

tonnage of the district". Evidence of severe competitive pressure in Alabama is given by the standards for price fixing by the Marketing Agency set up in the Code. Sale is to be "at prices, limited by freight rates, by competition with other fuels and other fields and other producers" as determined by the agency. And again, "the agency shall be authorized to provide for permitted variations from the price schedules determined by it from time to time to meet competition". Any violation of the price provisions entailed a penalty of 50 cents per ton as liquidated damages.

The Rocky Mountain-Pacific Code carried its price provisions forward with a boldness that approached temerity. There was to be standardization of contracts of sale, and of sizes prepared, as well as definite price lists. Moreover, these standard sizes and minimum prices were incorporated in the Code. District Control Committees were to revise the price lists, establishing from time to time "fair and reasonable minimum prices on the several grades, sizes and classifications of coal produced, such prices to be based upon the cost of production and competitive inequalities". The Code further provided for a truck differential to be added to the mine price. This was based primarily on the additional costs of loading this coal and carrying on at the mines what was essentially a retail business, but there was clear reference also to the dependence of the coal consuming public and coal producers on the service of retail dealers and of railroads. Here are materials for nice moralistic accounting of competing interests and for careful determination of the essential duties and privileges of code makers. Finally an article provided that the opening, developing or operating of new mines should be a violation of the code unless it were first clearly shown that such action would serve public convenience and necessity. This proposal was based on a declaration that existing mines had "an annual productive capacity of several times the quantity of coal produced therefrom and sold in any year heretofor". It may be noted here that the Washington Code, while it shows some differences in form, was in complete agreement with all these price control provisions.

The Off Railroad Coal Mine Operators of Illinois went a stage further and provided for allocating tonnage. It was made the duty of the Emergency National Committee, subject to the approval of N.R.A., to make periodic "estimates of expected Off Railroad Coal Mine consumption; and based thereon to establish ... an equitable production quota for the Off Railroad Coal Mine Operators industry and for each division thereof."

All the codes agree in submitting numerous items of unfair trade practices. There was substantial agreement as to the content of this section. They did not contribute to the difficulties encountered in formulating a code of general application and with one exception did not draw fire in the code hearings. Hence this review is content with a generalized statement. The operators were concerned that unordered coal should not be forwarded, that there should be no rebates allowed below established prices, under any subterfuge, that business should not be bought by special concession or services, that coal should not be misrepresented or sold under a competitive trade name without authorization, and that breaches of contract should not be induced. The item which drew fire in the code hearing s pertained to the growing practice of trucking coal. The model code carried a positive section declaring:

"The retail distribution of coal is a necessary agency in the marketing and distribution of the product, and is a public necessity to the consumer thereof. The distribution of coal by motor trucks from mines to consumer direct eliminates rail transportation and operates to make the retail distribution unprofitable and destroys such agency. The sale and distribution of coal in motor trucks at less than the normal rail freight rate on such coal and the retail distributor's cost and profit in handling at destination is hereby declared to be an unfair trade practice."

This attempt to fix retail prices for trucked coal at levels determined by the cost of shipping over railroads and handling through retailers had implications of manifestly dubious propriety. In the general code it was softened to a proviso that a representative committee be appointed to investigate the subject and file recommendations within thirty days. Even so modified, it was attached by those entrusted with the interests of trucking companies.

The North Dakota Code emphasized the peculiar features of lignite mining and distribution. It made the North Dakota Independent Lignite Operators Association the administrative head. As a significant element in the "peculiar features" it may be noted in passing that although this Association included over a hundred operators its members employed approximately 1000 men or an average of 10 per operator. In Exhibit C this Code designates as a "corrupt practice" the selling of lignite coal at a lower rate in one market than in another. Allowance was to be made for difference in grade or quality and in the actual cost of transportation. The letter of transmittal explains that this provision was aimed at the practice of the large strip mine operator who are alleged to have been accustomed to make quotations lower than these general prices within the territory of small mine owners.

The NRA Chief and his aides found time in the midst of feverish activities during late June and July, to keep close touch with the committee of operators and of union officials engaged in the work of code formulation. Mention has been made above of General Johnson's appearances before the bituminous coal operators in Washington on June 5, 1933. He also addressed the annual meeting of the National Coal Association on June 16th, commending its action in recommending a model code. On several occasions he held conferences with operator's committees in Washington. On July 8th, speaking to the conference of operators and union officials engaged in formulating the general code, he declared "that it was the hope of the Government that codes could be worked out covering the major fields and that after thorough study and analysis it might be possible to weave them into a single code making due allowance for differing living costs and other factors in the several producing areas". This hope of the Administration was never lost sight of and was brought forward with increasing insistance as code making progressed. Thus on July 12th, President Roosevelt at his press conference, suggested that if regional codes for the industry were adopted there then arose a host of new problems as to territorial divisions and as to the assignment of various coal fields to one or another territory. At the close of the code hearings on August 12th, it was authoritatively stated that every possible effort would be made to bring the industry under a single code.(*) On August 17th, the President, the Administrator and Deputy Administrator Simpson conferred with a committee representing the Appalachian code. The President stated that he wanted a "universal code".

Despite these hopes and efforts the Administration had a lively sense of the difficulties involved in securing so large a measure of cooperation. When the Appalachian code was submitted, General Johnson and Deputy Administrator Simpson assured the Committee that they considered their achievement in combining over two-thirds of the industry measured by tonnage "miraculous".

Early in August strikes broke out in the steel-company mines within the Connelsville district of Pennsylvania. The danger that this disturbance of labor relations might spread widely aroused the apprehension of the Administration and led to the intervention of NRA Administrator Johnson and to the formation of a special board of arbitration. Since the truce was arranged to hold "pending hearing and determination by the President on the coal codes now filed with NRA," it was advisable that this business be expedited. Hence the hearing date originally set for August 14th was advanced to August 9th. This was Hearing No. 26. The official notice was careful to state that "the Codes for the Bituminous Coal Industry in their present forms merely reflect the proposals of the industry, and none of the provisions contained therein are to be regarded as having received the approval of the National Recovery Administration as applying to this industry".

(*) See the Bulletins of the National Coal Association at appropriate dates.

The hearing lasted four days from August 9th to 12th inclusive. Some 60 witnesses were heard and a wealth of exhibits, statistical and graphic, were presented. The chief impression gained from a survey of the material is that the hearing was dominated by the problem of inter-district wage differentials. (This question is discussed in Chapter VI of this study.) In addition every district spokesman felt obligated to give detailed evidence of the difficulties and losses met by operators in his area, to state the technical difficulties encountered because of adverse geological conditions, to relate the burdens imposed by freight differentials, to disclose the inroads made by competing fuels and to defend the wage and labor policies of his adherents. Much can be learned of the industrial situation here but digesting of the material will not be attempted in this chapter. On other questions of capital importance there was little discussion at the hearing. Several district spokesmen expressed their conviction that general administration of the industry was impracticable. This was not only true of spokesmen for small operators, as in Preston County, West Virginia, who feared the domination of large operators and "long range control" considered both geographically and in the business sense; (*) for detached fields, as Western Kentucky, which preferred a separate code but allowed that the conditions might be met by "special treatment"; (**) nor yet of those speaking for associations of operators in individual states, such as Indiana and Alabama. In the former the plea was for local autonomy with no control by other districts although willingness was expressed to submit to governmental administration. (***) In Alabama the expression was less restrained. "The non-representative character as to Alabama of any national or inter-regional coal code and the exceptional status of the industry (was felt to be) demonstrated by the analysis of the economic condition of the industry in Alabama" as outlined. The Alabama representative spoke of the "necessity for a separate code for the field related to the necessities and administered locally". Less helpful was his reference to the "truculent intention to scuttle the area" manifested by competitive interests. (****) He gave only grudging assent, under questioning, to the principle of government supervision but agreed that there might be permanent machinery for daily consultation with NRA and that that agency might have the right of approval in detail, as the work of code administration progressed.

(*) Transcript of Code Hearing, Vol. IV, p. 200.

(**) Ibid, pp. 581-2.

(***) Transcript ut supra, Vol. III, pp. 615-6.

(****) Transcript ut supra, Vol. III, pp. 478 et seq.

But opposition to a general Code extended to representatives of great areas whose achievements in securing the adherence of various districts to a single code might have been expected to incline their thoughts to a national scheme. Thus the Rocky Mountain Pacific representative was requested to make a most earnest appeal to the Administrator that his territory be considered as an entity and not brought under any Code written for any other area in the United States. The basis of this opposition was declared to be their hopes for effective administration.(*) Most impressive of all such expression was that of the sponsors of the Appalachian Code. Notwithstanding their inclusion of 70 per cent of the national output under a single code, their witnesses were committed to a demand for a separate code and an independent administration. They would meet the NRA staff on "an equal footing but not in a supervisory capacity". Again more bluntly stated in response to questioning, the spokesman said: "We don't want (the administration) to have power to tell us how to run our mines, or how to sell our coal." It was conceded that "any wanted facts would be made available to the Government". (**) In some part the attitude of this group was due to the belief that price and market problems would be handled by marketing agencies on the model of the Appalachian Coals, Inc. They had been engaged in actively promoting such organizations in 1933 before codes were in prospect and they expected these agencies to function successfully without other measures of industry or of government control. (***)

Advocates of a single code for the industry were limited to those who had assisted in the formulation of the general code. Their attitude was positive and vigorously expressed. Thus Mr. Harrington stated that the "general code gathering was clearly of the opinion that one national basic code for the industry was called for by every practical consideration of the new attempt to restore prosperity". (****) Mr. C. F. Hosford was equally positive. "I quite agree", said he, "that when you take the whole greater Appalachian fields, it is absolutely impracticable to divide that into various districts and to set up a number of codes for competing districts because they are overlapping both in production and in marketing, and that the adoption of numerous codes varying in their provisions will serve only to bring confusion". (*****) Mr. Taplin concurred in these statements and added to it a declaration of desire that the "government supervise and direct not only the coal industry but competitive fuels, such as oil and gas, and have provided in this Code a

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(*) Transcript ut supra, Vol. I, pp. 137-8.

(**) Transcript, ut supra, Vol. I, pp. 48 to 70 Passim

(***) See the testimony of Charles F. O'Neil, Ibid Vol. I, pp. 10 et seq. Passim.

(****) Ibid, Vol. II, p. 290.

(*****) Ibid, Vol. III, pp. 488-9.

planning board for that purpose". (*) President John L. Lewis placed the United Mine Workers on record as favoring the administration of the entire industry by one board and said "it is our opinion that there should be added to the Board the function of economic planning for the industry". (**)

The question of hours was discussed at some length. On the one hand representatives of all the union factions agreed in demanding the 6-hour day and 5-day week. This was an old issue with union men. Their argument, originally based on the desire to spread their limited work opportunities evenly over the year, was strengthened immeasurably by the emphasis placed by N.I.R.A. on measures for spreading employment. (***) Operators' representatives urged an 8-hour day pointing out that the mine layout and equipment were adjusted to that period. The problems of loading and hauling were central in their arguments. Rooms could not be cleaned up and prepared for the next shift of cutting and shooting men in less than eight hours. There was vigorous protest from certain sections also against a rigid limitation of weekly hours. Seasonality of demand joined to the difficulty and expense of storing coal, they declared, made necessary an extension of the maximum weekly hours to 48 in the months of highest consumption. (****)

Questions of price control might well have been expected to receive extensive attention in the Code hearing since practically all the proposed codes suggested as a price basis the cost of production and since a majority of them asked for the setting up of actual minimum prices. Some codes, e.g. those included in the Rocky Mountain Pacific group, carried actual minimum price lists. At the hearing, however, very slight attention was given to problems of price fixing. The eastern operators expected this matter to be handled by marketing agencies. Mr. Harrington, in presenting the general code, declared the minimum coal price article to be one of the most important in the Code. He described the evils requiring correction. "In the stress of competition", said he, "and in the effort to keep mines in operation, even prepared coals, at times, have been sold below cost, and with slack or fine coal, this has been the rule rather than the exception". (*****) But of discussion of methods and

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(*) Ibid, Vol. II, pp. 278 - 9.

(**) Ibid, p. 310.

(***) See the testimony of John L. Lewis, Vol. II, p. 347 et seq. of Progressive Miners' representatives, Vol. III, p. 555 et seq. of National Miners' Union, Vol. IV, p. 693 et seq.

(****) On the 8-hour day issue, see the informing testimony of Mr. Buchanan, an operator in Illinois, West Virginia, Kentucky and Arkansas, Vol. II, pp. 384 et seq. On weekly hours, see Mr. Collins of the Rocky Mountain Pacific group, Vol. I, p. 164 et seq.; Mr. McAuliffe from Wyoming, Vol. II, p. 399; Mr. Heaps of Iowa, Vol. IV, p. 640 et seq.

(*****) Ibid, Vol. II, p. 242.

agencies or of economic and industrial difficulties, there was rarely a hint at the hearings. The representative of Southern Ohio Coals Inc., possibly because this agency was directly concerned with price making, made some contribution at this point. As noted above, he suggested the inclusion of the competition of other fuels as a factor in basic prices. While an independent operator interested in mines located in Indiana and Illinois called attention to the difficulties inherent in any attempt to set a single basic price for all mines, he preferred to apply the "average cost of production to each individual mine operation and not to the average of all the mines in a district". Since this contribution to scientific price fixing stands almost alone, a further quotation is justified. Perhaps the moral is that open code hearings are not the place for such discussion.

> "There are four or five different veins in Indiana and Illinois and it is easy to see that a low cost operation in one vein, by reason of high cost operations elsewhere in the same vein might have a high minimum cost placed upon it which would prevent it from competing with its neighbor mines, in a different vein even though his own low cost would otherwise permit him to live. It would follow therefore that the minimum cost as between the different veins would have to be related to each other and fair differentials established. All these in turn would have to be related to all other veins from any other districts competing in a common market with the necessary differentials. You can readily see that it would soon become the worst complicated and complex structure imaginable. To, differentials are bad enough in wage scales without bringing them into the question of prices.
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> "I would further point out that a slight mistake in classifying any mine with a higher grade of coal would prevent such mine from selling its product until all the other mines with the better grade had been sold out, even though the cost of production of the example mine would permit it to sell its coal at less price than the minimum fixed and still make a fair profit." (*)

A significant event at the hearing, in view of later difficulties in correlating the four codes dealing with coal, was the fire drawn from wholesaling and trucking interests by certain features of suggested codes. The geographical set up had been drawn to cover the entire United States, but certain cities were separated from their natural affiliation on geographical lines and included in neighboring divisions "because of their effect on the marketing of the product". (**) This was true of Cincinnati and of St. Louis. The original map suggested an intent to create marketing areas with attached producing territory on the lines of war time control. The attitude of the objectors is best presented in their own words. "The Code purports", said one, "to be a Code for coal producers but the districts cover not only the coal producing parts of

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(*) Ibid, Vol. III, pp. 435-6.

(**) Ibid, Vol. II, p. 234.

the United States, but the coal consuming parts, and it is thought by many of the wholesalers that these administrators may in some way interfere with the wholesale coal trade. Especially is this the case in St. Louis." (*) In St. Louis the objection was to a "foreign administration" since the city had been attached to Illinois.

The trucking interests were similarly positive in voicing objection. They called attention to the fact that a code for the motor truck transportation industry was in the making and were convinced "that any motor truck transportation clause was irrelevant to the purpose and intentions of a coal industry code. It would be discriminatory in character, and would have a tendency to harrass and oppress the local coal mines ... using the motor truck as a means of transportation in the movement of coal to their natural markets." (**)

Another matter presented was the child labor clause. Effective presentation was made of the vicious character of including the word "knowingly" in the act and of the desirability of a minimum age of 18 years for inside workers and for those engaged in hazardous operations. To these suggestions the operators were amenable. There was some presentation of safety conditions and desirable measures of betterment. The cause of the negro miners was adequately discussed. The different union factions aired their mutual grievances and, to a degree, declared their relative strength. Incidentally, some operators, notably of Alabama, (see Transcript of Code Hearing Vol. III, pp. 503-5) voiced stern opposition to union contracts. In such discussions, the current question of including in codes language qualifying 7 (a) was seldom candidly faced. The head of N.R.A.'s section on Research and Planning contributed a statistical summary of historical and competitive conditions drawing to the following conclusion:

> "Through organization of the factions within the industry under a code and providing an instrumentality for the gradual development of economic planning within the industry and in relation to competing or parellel fuel and energy industries, an opportunity is now afforded for the conservation of the natural resource of coal and for the conservation of the human and capital resource so that instead of continuous decline and waste, disemployment rather than employment and even unemployment, bankruptcy rather than profits or even bare solvency -- instead of continuing the descent toward economic zero coal can enter upon a new era of recovery." (***)

At the conclusion of the hearing, interested proponents of codes were requested to be available on August 22nd. It was understood that the Administration would present a code at that time and such a document

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(*) Ibid, Vol. I, p. 147.

(**) Ibid, Vol. III, p. 454.

(***) Ibid, Vol. IV, P. 682.

was prepared by August 18th but never released. On that date a conference comprising some 200 interested parties met for a brief session with Deputy Administrator Simpson and General Counsel Richberg. The press had announced that a code would be presented. Instead the presiding officials asked for the selection of representatives from each district to attend a conference the next day. When these delegates met they were addressed by General Johnson, Deputy Administrator Simpson and General Counsel Richberg. The burden of these speeches seems to have been the desire of the government representatives to allay fears that a code was about to be imposed on the industry and to give assurance that each of the large producing districts of the country would enjoy "absolute autonomy". (*)

There ensued a period of many conferences. Representatives of NRA were meeting daily with representatives of the various districts in an endeavor to secure agreement on a system of wage differentials. In the event, they were successful in securing acquiescence, if not agreement, by the representatives of all districts except Alabama. The government in that case prescribed a rate of $3.40 although the operators could not be induced to agree to a higher rate than $3.20. The four men representing the Appalachian Code: Messrs. J. D. Francis; J. D. A. Morrow; Charles O'Neill; and R. E. Taggart, by their unceasing activity earned for themselves the sobriquet of the four horsemen. Representatives of all the districts were constantly in Washington and from the nearly continuous conference, the outlines of an acceptable code gradually emerged.

It is evident that the questions of labor costs and interdistrict wage differentials was the major factor in delaying agreement. In late August and early September the Appalachian operators, north and south, were engaged in wage negotiation with the United Mine Workers' Union. The successful negotiation of a wage agreement covering this highly important coal producing area, settled many controverted wage questions and furnished a solid foundation, comparable to the earlier Central Competitive Field agreements for basic wages in outlying districts. This agreement was signed September 21, 1933. There is interesting comment from General Johnson under date of August 21st, regarding the character of these conferences. After referring to the inherent difficulty of reconciling differences on such issues as that of the open and closed shop, he continued:

> "Notwithstanding this there has been manifested no disposition to obstruct. On the contrary, everybody is sincerely seeking agreement. Our conferences have been amiable and the arguments have been earnest without being acrimonious. The delegations are composed of reasonable men, who realize that their points of view are in conflict, but who are equally concerned with the welfare of the industry and the success of the NRA program. Under these circumstances, I'm perfectly sure we will

(*) Bulletin National Coal Association, August 19, 1933.

reach a comfortable arrangement, and that a code will issue presently." (*)

A full record of the conferences could only be written at this date by one of the central figures therein. It will be most regrettable if the inside history of these meetings is not preserved. As an example of the educative effort necessary to bring into agreement many men, representing diverse interests, and for whom clear vision of essentials was often obscured by the memories of old conflicts, such a record would be of transcendent interest. However, the stages in the development of the code are fairly clearly marked. As noted above, NRA officials drafted a tentative code August 18th which they were careful to label: "This tentative draft has not been approved in any respect by anyone connected with NRA, but is made available only as a basis for discussion and to facilitate the formulation of a basic code for the bituminous coal industry". This draft was never released, as a whole, but on August 24th four sections dealing with administrative features were given out. On September 7th a so-called basic bituminous coal code was published over the name of Administrator Hugh S. Johnson, together with notification that written statements offering objections, or amendments, to its provisions would be received until 6 P.M. of September 9th. In the light of such comment, the Code was to be revised and presented at a public hearing on September 11th. A hearing of the character suggested did not eventuate but on September 13th revision of the previously published four sections was put out. On September 16th an agreement on a newly drafted form was reached by representatives of Divisions II, IV and V and on September 18th received the approval of President Roosevelt, with some modifications by executive order.

The request for criticism of the September 7th Code aroused a storm of objections. As stated by General Counsel Richberg at a hearing on September 12th at which he made the only speech: "We have had filed a great many helpful statements and suggestions of improvements of that code. That was desired. We have had filed a certain number of somewhat impassioned arguments and criticisms of code provision that we had not presented and criticism of an administrative machinery which we had not thought of setting up, all of which has been quite a waste of time." Plainly the atmosphere of conference rooms had grown heated. There was discontinuance of plans for public hearings. Hereafter the Administration relied on conferences to discover and compose difference of opinion. In these efforts, NRA officials were greatly helped throught the formation, at their suggestion, on September 12th of two Basic Code Committees, one on administration of the Code, the other to consider the content of the Code as a whole. This was outside of the question of the minimum wages, to which separate treatment was given. On each Committee, Division I was to have four members; Division II, two; and each of the others, one. Separate groups, desiring to do so, might also send representatives to the meetings of these committees. In a large measure this was the

(*) Press release, August 21, 1933.

machinery through which the final form of the Code was worked out.

It will be convenient to follow the changes made in successive drafts of important sections of the code. First as to the geographical basis, it will be remembered that the "general code" had proposed a five area division covering the entire country. The August 18th draft made six. Of these, the last three, the Southern or Division III in the approved Code, including Alabama, Georgia and Southern Tennessee; the Southwestern or Division IV, Missouri, Kansas, Oklahoma, Arkansas and Texas; and the Western or Division V, including all Rocky Mountain and Pacific States; remained with little subsequent change. North and South Dakota which had been included with Iowa, Illinois and Indiana, were added to the Western Division in the September 7th draft and thereafter that Division remained unchanged. During August and early September, operators in North Dakota, by letters and telegrams, were seeking approval of a separate code for their lignite industry. Besides the Dakotas the Central Division in the August 18th draft included Western Kentucky as well as the three States, Iowa, Illinois and Indiana, which finally made up Division II. The first proposal was to divide the Appalachian Code territory into two divisions; the Northeastern, including Pennsylvania, Maryland, Ohio, Michigan and West Virginia north of the Kanawha district; and the Appalachian, comprising the rest of the territory of Division I except for Western Kentucky. The next revision, that of August 24th, provided five Divisions, combining all the Appalachian territory including Western Kentucky but throwing Michigan into Division II. By the September 7th revision, these Divisions had taken their final form.

Administrative provisions of the original draft included a National Bituminous Coal Administrative Board "consisting of members representing the three parties at interest, namely, producers, employees and consumers. The number of such members and the specific duties to be performed shall be determined by joint conference at which the three such classes of parties at interest are represented, together with representatives of the Administrator". Each Division, by action of the producers in the district, was to establish its own single administrative agency "for the administration of its own affairs within the limitation of the N.I.R.A. and this Code". Appeal was to be from these divisional boards to the National Board which, subject to review by the Administrator, was "to constitute a court of last resort on all matters referred to it and its findings shall be binding on all subscribers to this Code". No provision was made for districts within divisions nor for local control within divisions. The second draft was materially changed. No general board was provided. Each division was to establish a Divisional Code Authority "for the administration of its own affairs to the extent authorized in NRA and this Code". Here is found the first mention of Presidential Members. One was to be appointed in each Code Authority. The President also was to have power of modification or veto over every action of the code authority. In each Division, Marketing Agencies might be established and controlled by the Code Authority. These provisions were repeated in the September 7th proposals and in addition provision was again made for a National Bituminous Coal Board of ten members; five to be appointed by the President from nominations

made by each of the Code Authorities, and the others to be the Presidential Members of such Code Authorities. Powers granted to this board were indefinite and shadowy. It was "to have the powers provided in the Code and report from time to time to the President upon the operation of the Code".

Such administrative proposals aroused the sponsors of the Appalachian Code. Their criticism submitted September 9th speaks of "paternalistic interference of the Administration in management" and of "management obliteration". They expressed their attitude toward the proposal that acts of Code Authorities should be subject to modification or veto by the Administrator as follows: "It would be difficult to conceive of any more abject state to which management can be relegated". "Our first fundamental objection", said they, "is based on the fact that the Code as proposed deprives the owners of the property of practically all the rights of managers". They pointed out that while they represented some 70 per cent of the production, they were placed on a par with each of the other four Divisions in administrative representation and that their one member of the proposed board sat in a board of ten, five of whom were governmental appointees. "The result is", read their protest, "that the 70 per cent of the industry which we represent will have a 10 per cent representation on the National Bituminous Coal Board." Later they declare: "We are not willing that any other coal producing section should participate in the control of the affairs of the Appalachian district".

Of similar tenor was the protest of the Alabama operators. "This basic code", said they, "would displace the machinery for real self-determination proposed by the Alabama Code and would substitute control by the Administration". In their opinion "the sole function of the Government is political". They make their position clear: "We must insist that any code with which our division is expected to comply must contain provisions for actual self-determination or we will manage without it." Modification or veto of the acts of Divisional Code Authorities by the Administration, in their opinion, reduced those authorities to a "figure of speech". "The audacity of that clause", reads their protest, "is sufficient to disclose the theory of the Code". In concluding they state their belief that "the purpose and effect (of the Code) would be the transfer to political control of the basic functions of wages, prices and distribution".

The tentative draft of September 13th showed the effect of criticism received on the preceding form. The Divisional Code Authorities were to consist of not more than 15 members, all but one to be elected by a divisional association or a committee of producers. Voting was to be primarily by tonnage under regulations prescribed by the Administrator. Marketing Agencies might be established within a division by a voluntary association of producers functioning under general rules and regulations prescribed by the Divisional Code Authority but, be it noted, not directly dependent upon that body for its organization. The Industrial Board also was made over to allow greater representation to the districts of largest production and to place control securely in the hands of the industry. Four members "were to be designated" by the Code Authority of Division I; two from Division II; and one from each of the other Divisions. Membership for the five Presidential Members was retained. Inasmuch as the ill-defined powers of the Board were neither enlarged nor strengthened, it is somewhat difficult to understand the importance attached to its composition by the operators. As stated in this draft, it was to meet on call of the administrator, who was ex-officio Chairman

to consider and make recommendation "of amendments or other measures which may stabilize and improve the conditions of the industry and promote the public interest therein".

These provisions remained substantially unchanged when the Code reached the President except that the final draft allowed the formation of Subdivisions with a Code Authority in "geographical areas" within the Division. The desirability of such action had been forcibly stated by the sponsors of the Appalachian Code in their protest of September 9th. As their fifth fundamental objection they state: "that the proposed code undertakes to control the coal industry along national lines rather than upon the natural district lines established by the location of coal deposits." They called attention to the great disparity in size, measured by tonnage, of the Division set up and say of their own Division:

> "No one board can adequately handle the complicated labor, marketing and production areas of Pennsylvania, Ohio, eastern Kentucky, Virginia, West Virginia, and Northern Tennessee, involving 70 per cent of the country's output, and give attention to the needs of North Carolina, lower Michigan and Western Kentucky. The solution is to be found in splitting the so-called divisions into units less unwieldy and with common problems."

Prior to the Code hearing of August 9th to 12th, the proposed codes had practically all provided for the collection of data and generally had allowed that it might be available to governmental agencies. The unfortunate draft of August 18th proposed that each employer in the industry should "furnish duly certified report to the President or to such other agency as he may designate, in such substance and form as may from time to time be required". Such requirements disappear entirely from the September 7th draft except that the records and the data of Marketing Agencies and Code Authorities were to be open to inspection by the regularly appointed agents of the Administration. In the approved form this requirement was again written in. It was further provided that the Code Authority must collect and compile any reports required and that the Presidential Member was to have authority to examine books and records of the producers in his Division.

In this record of successive changes in the Central Administrative provisions may be clearly seen the play of opposing forces. On the one hand, the operators were jealous of governmental control. Indeed they resented any sort of central control, even industrial. Each district and group desired complete self government. Such an attitude was both natural and inevitable, but unfortunately it was incompatible with the necessities of the situation. This "sick industry" needs not only centralized control but a strong administration. This its leaders consistently refused to recognize. Instead the tendency was toward localized control. In addition the small operators feared domination of the industry by the large companies and their own elimination. The large companies were aroused by any proposal which based control on voting by members rather than by tonnage. At the same time they rebelled against any proposed set up which gave the Government a majority vote in any Board or authority. Any suggestion that control should pass to the administration aroused the "impassioned" outbursts to which General Counsel

Richberg referred. Their feeling reached its logical expression in the recalcitrant attitude displayed toward furnishing the government with reports and data. This record is reminiscent of the successful legal battles which operators waged against the collection of cost data by the Federal Trade Commission in post-war days. Proposed codes had frequently provided for assembling of cost data but almost always under carefully devised plans for lodging them in operator organizations. The line between that and reporting direct to the Government was one which the producers stubbornly refused to cross.

The formulating of measures for the settlement of labor disputes makes an interesting story. Here the administration code drafters had a greater measure of success. Developments at the time generally strengthened their hand. Union organizers were extraordinarily active and threatened strikes were numerous. The National Labor Board had been set up on August 5th, 1933, and had intervened in certain coal strikes. Under these circumstances, agencies for strike settlement were welcomed and the bituminous coal industry held a strong preference for its own agencies as contrasted with a national board operating in industry generally. None of the codes proposed by the industry had contained any section dealing with the settlement of labor disputes; but the four sections published August 24th called for a complete set up: mine, local and divisional adjustment boards and a National Bituminous Coal Labor Board. The adjustment boards were to be composed of representatives of employers and employees. The National Board of three appointed by the President was to have an impartial Chairman. The divisional adjustment boards were to settle local and district disputes if possible. When such efforts failed the disputes arising in any of the five divisions were to be passed on finally by the National Board. In effect this set up was retained in the September 7th draft. This plan for adjustment and labor boards drew fire from the operators' representatives. The objection of the Appalachian Code sponsors can best be stated in their own words:

> "The set-up for handling disputes affecting hours, wages and conditions of employment involves unnecessary steps and unjustifiable expense. It tends to delay and to prolongation of disputes. It gives the opportunity for consideration of comparatively simple problems by too many tribunals. It takes no account of the rights of the individual employee or of any group of unorganized employees. It is peculiarly designed to drive employees into a union. We believe the manner of handling mine disputes can and should be simplified and made applicable to all employees, regardless of their affiliation or non-affiliation with any organization.
>
> "The Article lacks any provision prohibiting stoppage of work at the mine while a labor dispute is under consideration by the persons or tribunal to whom or to which it is referred to adjustment. Absence of such provision makes for sporadic or protracted stoppage of work at the mines as the case may be.

> "The section treating of labor relations does not provide any suitable method whereby the obligations of labor can be made enforceable against the employee or employees."

In like temper the Alabama operators attack the idea of divisional and district adjustment boards. These, as they see the matter, could "be created only by organized collective bargaining". They are opposed to a National Bituminous Coal Labor Board whose conclusion is made final. "This", says the protest, "is not mediation. It is final determination by political authority and should be eliminated or amended....it presupposes unionization of the entire industry within ten days of its effective date."

These criticisms played a part in causing a redrafting to the extent of setting up a Bituminous Coal Labor Board in each of the five Divisions. The members of these Boards might meet as a National Board to handle inter-divisional controversies, or matters affecting more than one division because of its effects on competitive marketing, or matters affecting the general public or the welfare of the industry as a whole. All these Boards were to be appointed by the President and each of the Divisional Boards had three members one selected from nomination by the Code Authority; one from nomination by organizations of employees; and an impartial Chairman. The approved draft added a second board for Division I so that in the final set-up, that Division had a North and a South Board. It may be noted in passing that the anticipated press of business for these boards due to strikes did not eventuate and the provision of six Labor Boards proved unnecessarily cumbersome.

In the draft of August 18th and in that of September 7th, had been incorporated decidedly liberal provisions governing conditions of employment. These included Article 7 (a) of N.I.R.A. without qualification as well as all the sections written into the "general" proposed code. This, it will be remembered, had been largely influenced during its composition by delegates from the United Mine Workers' Union. Such clauses in any case must have been expected to draw fire from operators of non-union territories, but the situation was complicated by current discussion, developing much more heat than light, as to the inner meaning of Section 7(a) itself. About this time also the employers had succeeded in writing into the Automobile Code a statement qualifying 7(a) to the extent of declaring that "employers in the industry may exercise their right to select, retain, or advance employees on the basis of individual merit, without regard to their membership or non-membership in any organization". In common with other employers engaged in code formulation, the operators sought similar inclusion in the Bituminous Coal Code. Thus the Appalachian representatives stated:

> "We still insist that this clause must be included in any code of fair competition to which we are to agree. A similar statement in the Automobile Code has been approved by the Administrator and the President, and there is even more reason for its inclusion in this Code."

Their second fundamental objection reads: "the labor provisions are throughout designed for operators only in connection with a labor union" giving no recognition to the rights of individual employees or groups of employees. Later they declare their belief that Article 7(a) of N.I.R.A. "not only does not require that workers organize but expressly recognizes their right to deal individually". The paragraph calling for organization, the "feel must be eliminated if they "are to continue to operate their mines. Otherwise as owners of these properties, we cannot be responsible for either the safety of the employees or the control and management of the properties." The Alabama operators manifested a similar viewpoint and called for the inclusion in the Code of an interpretation of 7(a) jointly issued by the Administration and the General Counsel of N.R.A. on August 24th. In the draft sent to the President, this statement was included as Schedule B.

It was a somewhat labored document. The initial statement declared that "the plain meaning of Section 7(a) cannot be changed by any interpretation by anyone". The words "open shop" and "closed shop" alike "are not used in the law and cannot be written into the law". Subsequent phrases endeavored to steer a course between the declaration that employees are to have the right to organize and bargain collectively through representatives of their own choosing and to be free from the requirements of employers that they join company unions, and the rights claimed for employers to deal with individuals or with their own men if they so desired, and, perhaps, if their employees should prove amenable in that desire. Local unions were legitimate and might be called company unions, reads the statement, but these must be free from employer control and must be truly representative of the employees affected. To determine such facts "the N.R.A. will offer its service to conduct an impartial investigation and if necessary, a secret ballot to settle the question". Likewise, N.R.A. would promote and aid cooperation between employers and employees in the making and maintenance of agreements. This meticulous stating of the respective rights of the two parties had no more effect on the irrepressible controversy than did the voluminous and often acrimonious discussion at the time. The essential question was, and is, what happens when the rights of two parties to a conflict are both unquestionable and irreconcilable. In this pragmatic world when that situation is found in the field of industrial relation strikes and lockouts follow. No other solution was discovered by the National Recovery Administration.

Maximum hour provisions were first stated as in the general code at 32 hours per week for 26 weeks and 40 hours for the rest of the year, with a proviso that the employer might elect to operate 36 hours per week throughout the year. At no stage of code formulation was a suggestion made for any other daily standard than 8 hours. The September 7th basic code repeated these limitations. This drew from the North Dakota operators an original criticism. They would suspend the limitation on hours "during emergencies caused, or resulting from blizzards, below zero temperature or other similar conditions beyond the control of the employer". However, the final revision contained a flat requirement for an 8-hour day and 40-hour week. The first administration draft also contained a clause which would allow employers and employees to join in petitioning the administration for a suspension or modification of the limitation on weekly hours. By September 7th the plan was advanced of allowing employed miners to propose sharing work with unemployed workers attached to the mine. Such plans might be sanctioned by district adjustment committees in case of failure of agreement in mine conferences. Employers assailed this as a clear case of invasion of the rights

of management, The final draft added a limited list of exempted occupations, "supervisors, clerks, technicians" and employees handling man trips or caring for haulage animals. It retained the sharing of work provision but limited its effect to cases in which "mutual agreement" could be secured.

Wage clauses showed an interesting development. The first administration draft proceeded on the basis of setting up a basic rate (unspecified in the draft) to be applied to "tracklayers, bottom cagers, drivers, trip riders, gribbers, water haulers, machine haulers and timbermen". It further stated that "existing relative differentials" for other classes were to be maintained. Outside workers were also to have a minimum day wage which, however, had not been determined and written into the Code. Four adjustments were allowable on lines suggested in the general code: a percentage differential below basic rates for districts south of the Ohio River not including Division III territory; rates by joint agreement for the Southwest; existing rates above the basic levels for western states; and percentage rates below for Division III. The September 7th model marked the initiation of Schedule A for wages quoted by districts. It was confined to quotations for inside men. Other classifications were covered by the requirement that "customary differentials" above or below the basic minimum rates must be maintained. It was further provided that contract rates negotiated collectively should not be changed.

The employers attacked the occupational listing as based on an obsolete classification. A better statement would have been to the effect that no generally adhered to classification existed. The different fields and districts have always furnished the greatest variety of wage and occupational classes. They also assailed the requirement that differentials be maintained, as a scheme necessarily resulting in rigidity of wage structure, and developed, at some length, an argument current at the time that N.I.R.A. did not provide for the setting up of a schedule of wages but rather intended to have a single basic minimum wage established for unskilled men. This would apply under mining conditions to outside labor alone. Control of differentials "is to fix maximum as well as minimum rates" in direct contravention of the N.I.R.A. clause which provided that "no attempt shall be made to introduce any classification according to the nature of the work involved that might tend to set a maximum as well as a minimum wage".

Despite these protests the final draft contained daily and hourly rates for each district for both outside and inside workers and called for the maintenance of customary differentials not only for other classifications of employees but for tonnage and piece workers. Even at that last date, September 16th, Schedule "A" was incomplete. For fourteen districts, including all the submarginal areas, no rates were stated but were "to be prescribed by the President prior to the effective date of the Code". Seemingly in an endeavor to soften the asperities of wage differential controversy or perhaps, to postpone the evil day of final settlement, proposal had been included in these administrative drafts for provisional hour and wage determinations to be modified according to the results of an early investigation. In September 16th draft, this paragraph was in the following form:

"As soon as possible after the adoption of this Code, the National Recovery Administration shall undertake, through a designated committee or agency, an investigation for the purpose of reporting on or before December 31, 1933; upon (a) the practicability and cost (assuming the maintenance of existing rates of pay) of applying to bituminous coal mining a shorter work day and work week, (b) the effect of an advisability of revising wage differentials in the various divisions and districts of the industry and in the event of recommended change specification of the amount thereof; (c) the gross prices obtained for coal, or reasonably to be anticipated, up to the time of the report, for the purpose of determining whether wages and employment can be further increased or maintained without imposing undue burdens upon the industry."

The sections dealing with the setting of minimum prices contained to receive less attention than their importance should have dictated. Throughout the period of code formulation wage and labor matters absorbed the major part of the time and attention of all parties in interest. Under administrative handling, however, price matters were given more space and the procedure for fixing prices became more definite. Since these clauses were not essentially changed it will be sufficient to state in outline the provisions of the proposed basic code of September 7. The basis of price fixing was the fair market price. This was not to be measured by costs of production but rather by the amounts "necessary to carry out the purpose of the N.I.R.A., the payment of minimum rates herein established, and other wages properly based thereon, and the furnishing of stable employment for the workers necessary to maintain the industry". In addition account might be taken of "competition with other coals, fuels, and forms of energy and heat production". Prices and classifications were to be established either by marketing agencies representing at least two-thirds of the producers of the commercial tonnage of a district, or in the lack of such agencies by the Divisional Code Authorities. Prices were subject to the approval of the Administrator. In order that he might be well informed, the Presidential Members of Code Authorities were given adequate authority to investigate the records and data of marketing agencies and of Code Authorities.

Comment on these provisions was scanty and inadequate. Some excuse is found for this in the fact that operators, at the time, anticipated that they would be allowed opportunity to discuss these features at length in a public hearing. The Appalachian protest found the basis proposed for price fixing to be "visionary and impractical". They feared the obstructionist activity of minorities which might be larger than one-third, when marketing agencies were to be set up, and they flatly state their conviction that a Code Authority is not a proper body either to establish a minimum price or to classify coals. This belief was not elaborated beyond saying that "the size of the Appalachian Division is sufficient reason for this statement". The Alabama spokesmen objected to having all prices subject "to revision at will by the Administrator."

Certain other features may be briefly stated. The child labor prohibition was set at 17 years in the first draft, reduced to 16 years on September 7 and again raised to 17 years for inside workers or for those engaged in hazardous occupations and with a proviso that any higher requirement imposed by state law should prevail. The proposed planning board for all interrelated fuel and energy industries found favor in the first draft but disappeared thereafter. Provision for an investigation of conditions surrounding trucking of coal was written into both the August 18th and September 7th drafts. Numerous vigorously worded protests were received alleging that such action would be detrimental to small mines and was an invasion of the field of the trucking code. The clause was omitted from the final revision.

It must be understood that unceasing efforts were carried on by agents of N.R.A. and by cooperating representatives of the industry to secure an acceptable adjustment of the wage differential question. Serious doubts were expressed as to the adequacy of the adjustment finally reached. (*) It must be granted that the problem was one of enormous difficulty and that any definite settlement was a long advance over the pre-code chaos in the wage situation. Some union districts were not provided for in Schedule "A", e. g. Warrick and Vanderburgh Counties in Indiana, and some others accepted the solution reached with great reluctance. It may be noted further that Schedule A was effective only until April 1, 1934. (**)

On trade practices no controversies arose. This was not because of any feeling that these provisions were of slight importance. It rather meant that general agreement existed as to desirable standards. The first five of the 18 sections on Unfair Practices were concerned with prices. The ten following were adopted with clarifying revisions form the model code reported June 16, 1933 by the Code Committee of the National Coal Association. They included all the matters prescribed in that report. The remaining three sections had been developed in the discussions held since that date. No. 16 provided that special prices might be made on overseas exports; No. 17 and No. 18 forbade hidden discounts through commissions to shove middlemen in sales to industrial consumers or to retailers.

On the 16th of September the technical advisor of the Industrial Advisory Board recommended acceptance of the Code as drafted on that date. He expressed doubts as to its effect on prices, affecting the use of competing fuels, and as to the results on wages and employment affecting industrial relations. He thought the greatest threat lay in the development of small trucking mines. "I am sorry", said he, "to see the National Government have to supervise the industry but under the chaotic conditions, I see no other way out." He was also "sorry to see prices fixed but time will tell if its workable". This recommendation was concurred in by the officials of the Industrial Advisory Board. (***)

(*) In the report of Dean Elmer A. Holbrook, Technical Advisor on Coal to the Industrial Advisory Board.
(**) Full discussion of the wage differentials is found in Chapter IV.
(***)See the report in N.R.A. files.

On the following day, Deputy Administrator Simmson reported the code for presentation to the President and Administrator Johnson approved his report. It is worthy of note that the Deputy Administrator claimed credit for N.R.A. in promoting cooperation within the industry. "It was largely in response to N.R.A. effort", says the letter of transmittal, "that there came into being the Northern Coal Control Association and the Smokeless Appalachian Coal Association representing almost all producers in the Appalachian Coal area which produces approximately 70 per cent of the national bituminous coal tonnage. These associations join in presenting a Code of Fair Competition, this being a remarkable exhibition of cooperation among coal producers who have been engaged for a generation in competitive operations." The letter states also that the Administration was active in facilitating the negotiation of the Appalachian Wage Agreement which "was of the utmost importance in bringing about the submission of the Code for the industry as a whole". Certain recommendations follow, all of which were carried out by President Roosevelt's Executive Orders of September 18th and 20th:

1. It was definitely stated that all coal producers were obligated to finish designated governmental agents "such statistical information as the Administrator may deem necessary as well as to transmit "Reports and other information compiled by the Code Authorities".

2. Provision was made for the appointment of the three members of the Industrial Board in addition to or in substitution for the five Presidential Members of Code Authorities.

3. Schedule B, being the Johnson-Richberg explanation of Section 7(a) of N.I.R.A., was eliminated since attempted interpretation of that section "lead to confusion and misunderstanding".

4. On September 29th the completed Schedule A of basic minimum rates was approved and voting membership in the National Bituminous Coal Labor Board was restricted to the "impartial representatives of the President". Other members participated only in an advisory capacity.

The agreement reached on this date with the operators of captive mines in the steel industry may fairly be regarded as a constituent part of the Code. It will be remembered that the outbreak of industrial disputes in those mines caused the advance of the code hearings and that the formulation of a code was expected to aid in the settlement of these strikes. The employers in this branch of the coal industry, without subscribing to the Bituminous Coal Code, agreed to comply with the maximum hours of labor and the minimum rates of pay so long as that Code remained in effect. The President's approval was made with the understanding that hours, wages and working conditions were to be as favorable to the employees as those prevailing in the district in which such mines were located. The agreement was signed for 21 steel companies, including all which had been concerned in the [illegible] strike, and comprising a substantial majority of the steel industry captive tonnage.

II. AMENDMENTS TO THE CODE: THEIR PURPOSE AND HISTORY

During the period of about eighteen months while the Bituminous Coal Code was in operation it was modified by eight amendments. The first of these approved March 31, 1934 reduced the maximum hours to 7 per day and 35 per week, and made a general revision of wage rates. Amendments 2 and 3 approved April 22 and June 4 respectively, revised these rates in certain districts. The 4th amendment approved November 7, 1934, provided for the establishment of statistical bureaus by each code authority for the furnishing of information from each code member to the administrator and for payment of the expense of administering the code by the producers. The fifth amendment, approved January 8, 1935, forbade the making of contracts, whether for immediate or future delivery, at prices below the fair market price at the date of such contract. Amendment six, effective January 25, 1935, included a comprehensive revision of the method of establishing fair market prices and provided Boards of Arbitration to settle price matters in dispute. The seventh, as approved March 14, 1935, directed that each code authority should have one member representative of organized labor. The eighth and last amendment extended the provisions of the Code, which otherwise terminated April 1, to June 16, 1935. This had particular reference to wage and hour clauses.

The Code as adopted made the wage and hour provision effective only until April 1, 1934. It stated also that a conference was to be held on January 5 "between representatives of employers and employees operating under the Code, together with representatives of the N.R.A. for the purpose of determining what, if any, revisions may be desirable of the wages, hours, or differentials." It was anticipated that reports from N.R.A.'s statistical section would be available by that date to guide the conferees in their deliberations. Largely because it was not possible to collect and compile these data in time, this conference was successively postponed to February 12, February 21, March 1, and was finally assembled March 26. A special study made by six mining engineers was published under date of February 12. The field examination was made in November and December, 1933. The engineers had been instructed "to determine the effect of the Bituminous Coal Code on the industry and the practicability of substituting a shorter work-day and work-week" for the code hours. Their conclusion was adverse to the shorter hour proposed and read as follows:

> "With full appreciation of the desirability of creating additional employment, we have concluded from the facts brought forth by this investigation, that the Bituminous Coal Industry is not, at this time, financially or competitively able to decrease the work-day or work-week without detrimental consequences to employers and employees."

In addition to this report, cost data compiled by the N.R.A. Bituminous Coal Statistical Section for the Month of November 1933, and employment and earnings reports for the period November 1 to 15 had been released at various dates prior to March 31.

A further factor causing delay and uncertainty resulted from the duality of control over minimum wage rates. On the other hand these rates were definitely set down in the Code; on the other they were subject ot the right of employees to bargain collectively. The original Appalachian agreement, signed September 21, 1933 has served as a basis in fixing code wage rates. Its effective period extended only to April 1 and its coverage, while substantial, did not include some 30 per cent of production. The problem arising was a difficult one. How was agreement to be secured in the Appalachian fields without assurance that other competing fields would adopt provisions consistent with the agreement there reached?. Similar questions were promptly raised when the joint conference assembled on February 21. Smokeless operators, desiring to negotiate separately, were not represented. Whereupon one of the most influential operators declared that assurances of the establishment of proper competitive relationship with the Smokeless Field would be a necessary prerequisite for the participation of the interests he represented in an agreement. This difficulty was met by a suggestion of President Lewis, of the United Mine Workers, that the two conferences proceed concurrently. But the question as to the relationship of wage rates in the Appalachian field to those in outside districts remained an open one.

A further complication arose from the conclusion of a wage contract in the Alabama district on March 16. This was a result of strikes initiated on February 19. The disputes led to much disorder and it was necessary to call out the national guard to police the mine field. At the height of the disturbance 10000 men were on strike. The settlement, which was to hold until April 1, 1935, was made on the basis of the wages existing in commercial mines. This is to say at code minima.(*) Although the agreement contained a clause to the effect that it was subject to modification by further order of the Administrator or the President, it was the clear understanding of the operators and of the mediator who induced the miners and operators to negotiate the agreement that the miners' representatives had disclaimed any intention to seek further increases in the wage scales.(**) This rigidity in the wage scale in a district closely competitive with the southern Appalachian added materially to the difficulties met both by the Joint Wage Conference and by the Code Conference which assembled on March 26.

Proceedings on that day and on March 28 were devoted to presentation of the opinions of various districts regarding desirable amendments. So far as these matters touched hours, the sentiment expressed was favorable to a modification in the direction of greater flexibility, with longer maximum hours in the busy season rather than to a shortening of maximum hours. Comprehensive arguments of this character were made by spokesmen for North Dakota and for the Rocky-Mountain-Pacific Coal Association. There was an undercurrent of apprehension, however, based on persistent

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(*) Coal Age, March 1934, - p. 115. Wage rates are stated in issue for April, - p. 152.

(**) See the testimony in the Transcript on the Modification Proposal (April 9*, Volume I, pp. 31 et seq. and the affidavit of General J. C. Persons. Ibidd pp. 35-7.

rumors that the Administration was about to present proposals for radical modification of hours and wages. At the close of the second day of the hearing, Deputy Administrator Ellis, in response to a question, declared:

> "The administration feels that because of the short length of time represented by the cost statements, it is in no position at this time to make definite recommendations."

When the hearings convened on the afternoon of March 30, the character of the meeting had radically changed. There was a new chairman or "moderator", assistant Chief Counsel Smith, who announced that the meeting constituted the first conference provided in the Code to meet January 5. He reported that the Appalachian Joint Conference had signed an agreement last evening making substantial changes in the provisions as to maximum hours and minimum wages. These changes were incorporated into a proposed amendment to the Code sponsored by three subdivisions of Division I: Eastern subdivision, Western Pennsylvania, and Ohio and by all districts of the Central Mine Workers' organization. The changes proposed were to apply to all five divisions. Hours were to be reduced to 7 per day and 5 per week. The clauses as to excepted classes had been rewritten in the light of code experience. Schedule A had been largely, and in some districts, radically revised. In Division II minima day wage rates, both inside and outside, were not to be changed. Hourly rates were increased since the payment originally applied to eight hours now covered but seven. In Division V, for the most part, a similar statement applies. In district I, however, comprising South Colorado and New Mexico, inside day rates were to be raised from $4.44 and $4.48 to $5.10; outside rates from $3.75 to $4.10. North and South Dakota inside rates were to be stepped up 50 cents per day from $4.00 to $4.50. A similar increase on outside rates was to bring them up to $3.70 from $3.20. In Division I, as a general statement, both inside and outside minima rates were to be advanced 40 cents. This would raise the inside rates in District A, comprising Pennsylvania, Ohio, Michigan, and the Panhandle District of West Virginia from $4.60 to $5.00. The outside rate in this district had been $3.60; it was to become $4.00. In District C, including all the rest of Division I except Northern West Virginia and Western Kentucky, the corresponding increases were from $4.20 to $4.60 and from $3.20 to $3.60. Northern West Virginia, which had enjoyed a 24-cent per day differential under District A, was given the same rates, $5.00 on inside and $4.00 outside. For Western Kentucky inside day rates which had been $4.20 became $4.60; outside rates of $3.00 became $3.75. The radical revisions were applied to Divisions III and IV. In the latter inside day rates of $3.76 were to be raised to $4.20 or to the rates of District C. Outside rates, however, were to be raised to the level of District A, $4.00 or 40 cents above District C's new rate. In Division III, the severest increases were proposed. The inside day rate was to be $4.60 and the outside day wage $3.60 throughout that territory. District J, or Alabama, Georgia, and two counties of Southern Tennessee had had an inside rate of $3.40 and an outside rate of $3.00. The proposal thus was to advance outside rates by 50 per cent, inside day wages by over 35 per cent. In District J-1, comprising the remaining counties of Southern Tennessee, the code rates

had been set at $2.04 inside and $2.04 outside. While these proposed advances were less severe the further problem of erasing an intra-divisional differential was involved.

Further changes were proposed affecting tonnage and other piece rates payments. In the Code these rates had not been prescribed beyond the general declaration that "customary differentials" were to be maintained. In Amendment No. 1 " an increase of 10 cents per ton for pick mining; 8 cents per tons for machine mining; 1 cent per ton for cutting and of 9 per cent of all yardage and dead work rates was provided." In addition it was specifically stated that in the districts where wage increases were to be most pronounced, namely: Northern West Virginia, Western Kentucky, the Southwestern States and in Division III, the tonnage and piece work rates should "be further increased by an amount sufficient to maintain the parity" between these payments and the new day wage rates. These areas became storm centers of the ensuring discussion.

With this announcement by "Moderator" Smith, the hitherto somewhat humdrum proceeding became animated, to use a mild expression. It must be understood that the proposed amendment had not been so much as seen before it was read in the open meeting by the representatives of the districts most affected. Copies were not available for their use in the hearing of March 30. The extraordinarily rapid march of events precluded such normal procedure. As stated in the hearing by one of the Chief actors: "The agreement was finished and signed at 3 o'clock this morning and a code amendment came out of the Divisional Code Authority at noon today." (*) The conferees were further puzzled to understand the position of the administration. Mr. Smith stated: "We are forced to act very quickly in this situation, at least to the extent of putting out a proposal. So for the purpose of putting out a proposal which, in its nature, will be more difficult to change after it is out than before, we are forced to presume that anyone who remains silent gives his assent." Again in response to a question he answered: "The administration has no thought of putting out this proposed amendment as it is read today, as the Administration proposal at this time. We are going to confer, in the light of what has been said today, and will be said, tomorrow. Before the end of the day, I think an announcement can be expected."(**)

Although somewhat dumbfounded by the suddenness of the proposed amendment, the representatives manifested a degree of self-possession and self-restraint. The general attitude was one of loyalty to the Code and to the administration, joined with a feeling that such important matters could not be decided without sufficient time for consideration and for consultation with their constituency. Some of the districts most deeply concerned expressed a more vigorous reaction. The Southwest's representatives contented themselves with a statement that they objected to the amendment and desired time to consult with their members before expressing their opposition.(***) Northern West Virginia sent in a letter and brief

(*) John L. Lewis, Transcript, March 30, Volume III, P. 359.

(**) Transcript, Volume II, pp. 306 and 307.

(***) Ibid, p. 313.

under date of March 28, stating their conviction that "any attempted changes in wage differentials at this time are to be deprecated." (*) The spokesman for Western Kentucky found the proposed amendment "amazing" in "that certain gentlemen have undertaken to fix the wages and working conditions for everybody in the coal industry in the United States and asked that it be made effective on April 1." This proposal, if adopted, he declared, "would be absolutely destructive to the Western Kentucky coal field." (**) The Alabama representative felt that the amendment would be destructive to the industry of his state. Between days Division III Code Authority held a meeting and passed resolutions read into the record of the next day's proceedings which "challenged and denied the validity and the propriety of the proposal and the right of the Administrator or the President to promulgate or declare the same effective." Should such action be taken, read these resolutions, "each producer located in this Division shall be and is hereby released from any obligation to observe the same and shall be free to take any action which it may be advised to challenge the validity of any such change, proclamation, order or amendment." (***) Whatever else this action may signify it proves the capacity of the representatives of Division III to match the Administration and the proponents of the amendment in celerity. At the last Day's proceedings, March 31, a public Hearing on the amendment had been announced for April 9.

However, the amendment as proposed March 30 was approved by Administrator Johnson on March 31 and became effective April 1, "subject to further modification***on the basis of cause shown, either at a public hearing thereon which shall be held on April 9, 1934, or otherwise." The apology for such sudden action was stated as follows: "a serious emergency being threatened in the Bituminous Coal Industry." The character of that emergency may perhaps be deduced from a statement of President Lewis, of the United Mine Workers, read in the light of the traditional policy of that organization to cease work when contracts terminate. "An emergency," said he on March 30, "confronts the industry now. The contract is expiring in a great geographical area of the industry. The code wages are expiring in other areas. It is essential that the Government move at once to protect this situation from possible confusion.."(****)

Hearings on the modification proposals lasted three days, April 9 to 11 inclusive. There was considerable discussion not germane to Amendment No. 1 and considerable time given to extend presentation of the wage differential situation in particular districts. This problem is discussed later in this study. All that will be attempted here is to follow the developments leading to amendments Nos. 2 and 3. Spokesmen for certain districts, notably North Dakota and Iowa, argued that

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(*) Ibid, Volume III, p. 370

(**) Ibid, p. 371.

(***)Ibid, p. 370-372-3 &.

(****)Ibid, p. 370.

reduction of hours below 8 per day was impractical. Pointed and repeated references were made to the engineers' report in this connection. The operators association on Montana sent resolutions endorsing the Administrator's order of March 31. Aside from these expressions, participation by representatives of Division V was limited to discussion by spokesmen for Northern Colorado and for the Southern Colorado-New Mexico districts of their relative wage situation and their competitive position as compared to the Southwestern fields. They were not seriously disturbed by the amendment but felt as stated by the representative from Southern Colorado and New Mexico that in case their basic wages were changed they should be put on the same rates as the southwest.(*) In similar fashion the representatives of operators in Division II were more concerned with relative wages between themselves and closely competitive areas than they were with the basic wage price. It will be remembered that the changes made effective April 1 had all been in the direction of strengthening the wage cost position of operations in this Division.

Quite different were the presentations for the two storm centers in Division I: Western Kentucky and Northern West Virginia. From the first it was declared that the new wage scale meant the slow strangulation was willing to go along on the 7-hour day and would try, at least, to pay the original code wages for the shorter day. This was felt to be equivalent to the change accepted by Indiana and Illinois and the maximum increase which Western Kentucky should be asked to assume. A sentence may be quoted as illustrative of the temper of the presentation: "We earnestly request," said one representative, "a careful consideration of our situation which contains many elements that are local and peculiar."(**)

In Northern West Virginia the atmosphere had grown decidedly more heated. The background of the controversy for that district was laid in the joint wage conference. On March 17, the delegates from Northern West Virginia were called upon to justify their wage differentials. After some discussion of this issue, they withdrew from the conference and did not participate in the agreement as signed March 30. In the amendment hearing they repeated a proposal, made to the United Mine Workers and rejected by them that the operators would agree, under protest, to pay the Northern Appalachian day rates and would apply the same piece work raises as became effective in Division I. This position they justified by data showing the high output per man per day from their mines. At the time of the hearing the mines of the district were generally closed; 18,000 miners were idle and the operators' spokesman felt themselves to be "fighting for the very life of the district." They called for an immediate order restoring previous conditions pending an investigation of the facts presented.(***)

(*) Transcript of hearing, Volume II, p. 514.

(**) Transcript, Volume I, pp. 197-217.

(***) See the testimony of Fred A. Krafft, Volume I, p. 267, et seq and of J. Noble Snider, Ibid, p. 284 et seq.

From Division IV came spokesmen to rehearse at length the doleful history of their losing competitive struggle with oil and gas and, since the code became effective, with producers of coal in Illinois. They placed emphasis also on the fact that the wage rates incorporated in the amendment abrogated their contracts with the United Mine Workers. In the words of one witness: "In the absence of intervention by the Administration, Mr. Lewis, and his organization are morally and legally bound to work under the contracts which they have solicited and signed and which they have continously assured us would be carried out to April 1, 1935." The spokesmen were sincerely convinced that the deep mines of this territory could not operate under the new rates and that the application of such rates would make impossible the accomplishment of the prime purposes of the Code. These statements were made in excellent temper, considering that all shaft, slope and drift mines were closed. The appeal was to the administrator to give the situation in the field careful consideration before making permanent the rates provided in the amendment.(*)

Division III presented the most difficult situation of all the storm centers. The operators, as stated by them on March 31, were fully determined that the amendment should not go into effect. They had closed their mines as a first move and later applied to the federal courts for a temporary injunction restraining the N.R.A. from enforcing the amendment..This order was issued April 6, after an all day hearing. The operators attempted to reopen the mines April 9, under the terms of their contract signed March 17. This move was balked by the miners refusal to work. In the April hearing the Division presented a solid front, Alabama being joined by Southern Tennessee and Georgia both in prohibiting the wage increase and in expressing their belief that the amendment procedure was both irregular and illegal. The position of the Southern Tennessee operators was temperately if positively stated. "We do not deny," said their spokesman, "that our position is improved and that our chance for economic salvation is brighter today than it was prior to October 3, 1932." They presented "the single and specific request that in any revision of the Code of Fair Competition their territory should be continued in the present relationship to the industry." (**) The Alabama operators, judging from the presentation made by their representatives, were outraged both by the procedure adopted in putting through the Amendment and by the layout of the wage increase proposed for their employees. The latter move was characterized as an "effort to blanket Alabama under a revolutionary rate increase, which, it must be known to every man in the room and every member of the administration, was utterly impossible for them to pay."(***) In the plea first made by Alabama nothing further was advanced than a request for a rescinding of the amendment as applied to Alabama to be followed by careful consideration of the wage and hour situation in the light of all available data. When it became evident later that the hearing was to close without such action a final declaration was written into the record.

(*) Transcript, Volume 2 testimony of Messrs. W. C. Shank, p. 1005, Mr. Charles S. Keith, p. 1002; Mr. Peterswagh, p. 1017, and Mr. S. M. Thompson, p. 518.

(**) Transcript, Volume I, pp. 65-68.

(***)Transcript, Volume I, p. 28.

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This statement was marred by some extravagance of language explained, if not excused, by the emotional pressure under which the spokesman labored. A passage more positive than violent, read:

> "So far as we are concerned we have definitely and finally determined that we will not conform any further to any one man determination of policy and dictation in repudiation of the essential basis and covenant of the code. That conclusion on our part is final and we are prepared to take the consequences to save the industry from a destination worse than the economic chaos of the past."(*)

A later statement from the Code Authority of Division III will give another angle of the position of southern operators. It concludes:

> "In conclusion, we respectfully point out that any policy of blanketing wages south of the Ohio is a social rather than an economic gesture and is not warranted by the economic basis of the Recovery Act. Congress plainly did not intend that the Act should be employed to relocate industry or distribution, or close down industry in the South. In view of the certainty that Alabama has not taken and does not propose to take advantage of its lower scales to take any competitive business on a lower mine price basis, it would be unjust and not in harmony with the economic basis of the Act to impose any scale on Alabama which the recorded facts do not justify."(**)

From each of these districts and for the industry generally, representatives of the miners' organization spoke in support of the amendments and defended the wage rates written therein. It is no reflection on the capacity of these spokesmen to state that their arguments would have been more effective in a wage negotiation than in the current proceedings. They did not present a scientific justification for the proposed rates but rather addressed their attention to the needs of miners. They did not undertake an exposition of the comparative natural difficulties, market competition, or freight rate situations of different districts. Rather they enlarged upon the desirability of larger wage-earners incomes.

In extenuation of the failure of union spokesmen to make accurate and scientific arguments may be cited the expert testimony of the head of N.R.A.'s Research and Planning Division to the effect that the essential data were not available for such an exposition. Under date of March 30, 1934, this official reported to Administrator Johnson with reference to the Snoketeek field. "The evidence of the report for the November 1-15 payroll indicates inequalities in the tonnage

(*) Transcript, Volume III, p. 755.

(**) Memorandum, M.A.A. Tiles, under date of April 14, 1934.

rates between North and South. However, it was felt that the results for one period are not adequate or conclusive at least for definitive and precise determination." (*) At the close of this hearing the same official was handed the trying commission to make findings as to the propriety of the same differentials incorporated into Amendment No. 1. In his report dated April 19, he stated again and more precisely the basic data situation. "It must be emphatically stated," reads this document, "that the statistics compiled by the Coal Unit of Research and Planning cannot be used as an automatic determinator of rate differentials. The tables compiled to date cover only the month of November, and for some of the date only one pay period, November 1-15, is included. The material included however, is the best in existence. The November figures are decidedly inadequate as a basis for forecasting the results which might obtain from any changes growing out of the Amendment."(**) The report makes four "preliminary recommendations," as follows:

1. The maximum increase in basic minimum day rates to be 60 cents.
2. A concerted effort be made to have railroads pay adequate prices for coal now being delivered on contract.
3. Some attempt be made to prevent "dumping" of natural gas.
4. No change be made in the seven-hour day.

The report also made definite recommendation for day rates in each of the four storm centers. That for West Kentucky was as brief as positive. "It is recommended," reads the report, "that no change from the Amendment be made." Northern West Virginia having accepted the day rates of the amendment, this matter is assumed to be settled. As to piece work rates the recommendation is that the matter be referred to the National Bituminous Coal Labor Board for consideration. For the Southwest, relief from the wage increase to the extent of 25 cents per day was considered to be justified. This reduced the raise to 60 cents per day in conformity with No. 1 above. "The increase of 60 cents, from $3.75 to $4.35 per day for inside skilled labor," reads the Report, "is warranted by economic judgment of all factors," and is "necessary to maintain a proper relationship with competing districts." Recommendation for Division III was divided but in both cases followed the rule of a 60 cent per day maximum increase. For Southern Tennessee this meant a suggested increase from $3.24 to $3.44 per day; for Alabama, from $3.40 to $3.60. These recommendations for Western Kentucky and for the Southwest were followed exactly by the Administrator in Amendment No. 2, which he approved April 22. The difficulties of Northern West Virginia could not be settled by arbitration. In that district, as well as in Division III, a compromise seems to have been reached through private conferences of which no record is available. In Northern West Virginia the differentials of Amendment No. 1 were accepted. The clause concerning [illegible] piece rates to maintain parity of

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(*) [illegible], April [illegible], Volume I, p. 250.

(**) [illegible], p. 1.

earnings, however, was modified to prescribe definite increases of 2½ cents on loading rates and ½ cent on the cutting rates. These increases were accepted by the operators and the majority of the mines in the district, which had been closed since April 1, reopened on the 23rd. By a wage agreement concluded with the United Mine Workers on April 27, the district came into the general Appalachian agreement. The Northern West Virginia operators reserved the right to protest, at a later date, against these wage increases in case any injustice became apparent by September 1.(*)

In Division III a further reduction of 20 cents on day rates below those recommended by Research and Planning, was made. This brought inside day rates in Southern Tennessee to $4.24; in the balance of the Division to $5.80. On the basis of these rates Alabama operators entered into negotiations with the United Mine Workers. The district had been harassed by rioting, necessitating the declaration of martial law. Settlements were finally reached in May and the Division returned to normal operations.

In Western Kentucky Amendment Nos. 1 and 2 led to a complete and final rupture on wage rates between the operators in the district and N.R.A. The operators filed an application, on April 26, in the United States District Court at Louisville. It was granted on May 2 and a written opinion filed May 16. Judge Dawson characterized the application of N.R.A. orders to the mines of Kentucky as the "boldest kind of usurpation." He quoted opinions of the Supreme Court to the effect that "mining is not interstate commerce and the power of Congress does not extend to its regulation as such." Mines reopened May 3, although the United Mine Workers maintained a strike in Ohio and Muhlenberg Counties until late in May. The original basic code rate of $4.00 was paid applying to the 7-hour day. Thus regretably closed the history of Western Kentucky's participation in the Code wage and hour structure. Throughout the remaining period the district pursued an independent course, presumably maintaining the hours and wages just stated.(**)

The Southwestern states refused to accept the adjustment proposed by Amendment No. 2 and the deep mines remained closed, although strip operations were generally working. This meant about 16,000 men idle and 2,000 busy. The operators were loath to resort to court proceedings. Instead they strongly desired to continue under the Code. An acceptable course of procedure was found when the administrator proposed to send his technical assistant to make an investigation of the field and report direct to him. Such an investigation was carried on during June. (***)

(*) Protest to N.I.L.B., October 3, 1933.

(**) Coal Age, May, p. 193, June, pp. 253-5

(***) The report of Mr. Godfrey M. S. Trit has not been found.

As a result, seemingly of this report, Amendment No. 3 was approved June 4, becoming effective a week later. It provided a further decrease in day rates in deep mines from $4.35 to $4.00 for inside labor and from $3.75 to $3.50 for outside workers. It should be noted that this action created a new wage differential since strip mines were continued on the rates of Amendment No. 2 or $4.35 and $3.75. There was further revision effecting piece rates. This was required in the interest of maintaining parity between day wages and piece work earnings because of the very considerable reduction made in the day rates proposed for the Southwest in Division IV. It is not apparent how this revision of piece rates fitted into the Code amendment legal picture, since the new rates were never incorporated into the Code. They were, however, made effective in the Division through the Deputy Administrator and the Labor Board. It seems that an agreement was reached at Washington on June 13, between the Deputy Administrator, the miner and the operator representative on the Labor Board for the Division. This agreement fixed the pickmining rate at 8 cents above the original Code rate. The combined machine cutting and loading rate was to be advanced 7 cents from that base, while yardage and dead-work rates were to be increased 9 per cent. This adjustment, while not fully satisfactory to operators in the Southwest, was accepted and an agreement in conformance with it was worked out between the Arkansas-Oklahoma Coal Operators' Association and the United Mine Workers. (*)

There had been incorporated into Amendments Nos. 2 and 3, a provision applied to Southern Tennessee, to Western Kentucky and to the Southwestern States which read:

> "FURTHER ORDERED that, in view of the differentials recorded District 6, and in view of the situation existing in District H, pending further order there shall be no sales by operators of said Districts into the normal consuming markets of another District which is subject to higher rates of pay, at any prices for coal of comparable grade and quality, less than the price for such coal in said market charged by such other District, and there shall be no destructive invasion of such other consuming markets and, in the absence of satisfactory agreements governing this matter, the determination of the Administrator on complaint of any such destructive invasion shall be conclusive."

This summary statement of the stormy events attending the passage of Amendments Nos. 1, 2, and 3, cannot indicate the intensity of the controversies aroused. The chief impression gained from a review of the transcripts, briefs, and correspondence is to the effect that the Code during its first months of operation had conferred substantial benefits on its members. These benefits they were reluctant to forego even though they were outraged by the methods adopted in formulating and promulgating Amendment No. 1 and were sincerely convinced that the application of the wage and hour provisions would result in their

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(*) Correspondence in N.R.A. Files, and Arkansas-Oklahoma Wage Agreement. See Volume, Wage Agreements in Bituminous Coal Industry, pp. 407-19.

financial destruction. In any event all the districts, except Western Kentucky, fought matters out to an acceptable compromise within the framework of the Code and established their place as a regulated industry. In the light of the earlier history of that Code, during its formative period, as well as in this story of the struggle over amending wage and hour clauses, this result testified impressively of the strength of their attachment to code procedure.

Amendment No. 4 had reference to the collection of statistical data, the agencies compiling them, the nature of reports to be submitted and the apportionment of expenses incurred in such work. It was definitely declared that failure to submit such reports would be a violation of the Code. Discussion leading to such proposals was had at the meeting of the National Bituminous Coal Industrial Board on January 18 and 19, 1934. At that time Deputy Administrator Ellis, called up the matters of assessments and reports with reference to their bearing on enforcement. He stated that in several cases operators refused to furnish either assessments or reports and that as a consequence Code Authorities were handicapped in carrying on their work.(*) In part, difficulties arose because such failures to report had not been declared definitely to be violations of the Code; in part, because the smaller companies did not keep records which furnished the substantial volume of data called for. These matters were referred to a committee considering the formulation of a definite plan for enforcement which reported rulings on January 19 to be issued by the Administration to all Code Authorities. These rulings called upon every producer of coal to furnish such statistical information as the Administrator deemed necessary. "The failure, neglect or refusal of any coal producer to furnish the statistical information required" was to be a violation of the Code.(**)

The Appalachian Wage Agreement signed March 30, 1934 contained a provision for a North-South Commission to investigate the existing differentials on tonnage and day wage rates. In that connection there was incorporated in the agreement the following clause:

> "The Appalachian Wage Conference jointly recommends to N.R.A. that the Bituminous Coal Code Unit of the Research and Planning Division be continued for the purpose of assembling and compiling proper statistical data."(***)

When the Deputy Administrator announced at the amendment hearing on April 11, that the Administration could no longer assume the expense of collecting and compiling cost and wage data, the president of the United Mine Workers declared his belief that "their reports were very valuable." He stated also the desire of his organization for three specific forms of information: one for a detailed report on earnings; another for costs of production correlated with earnings; and a third a "brief and simple summary of mine realization f.o.b. the mines." He was further of the opinion that such information would prove the only

(*) Transcript of Meeting, January 18, p. 20, et seq.

(**) Ibid, January 19, p. 3.

(***) Wage Agreements, ut supra, p. 32.

safeguard for the Government in certifying minimum prices with fairness to both producers and consumers. For the use of the North-South Commission, it was essential that the data be collected and compiled by an impartial agency. The Deputy Administrator canvassed the representatives present and received assurance from spokesmen for Division III; Division V; Western Pennsylvania; and from the Southwest that they desired the statistical reporting to be continued. (*)

Following a suggestion made at this time a conference of representatives of all code authorities and of N.R.A. was held in Washington, April 18, to 20. Consideration was had of the statistical forms and of the data to be furnished. "It was decided to decentralize the collection and compilation of the statistics and to have the work done by the organization of the Divisional or Sub-Divisional Code Authorities, under the authorization of the Presidential Members. The supervision of field offices, the final assembling and review of the reports will be made by a separate Bituminous Coal Section of the Research and Planning Division in Washington." Since some of the smaller Sub-Divisions were not equipped to handle the work of compilation a canvass was to be made to discover how many code authorities would desire to have this work done by the Coal Section in Washington. Questions of the Budget were discussed and a provisional division of expenses made under which the "Government assumed the expense of the Washington office rent, printing and distribution of forms, and miscellaneous office requirements (except payrolls)." (**) In these arrangements, the desire of the representatives of the industry to retain control of statistical work deserves notice.

Under date of May 7, N.R.A. out out a Program for Continuation of Statistical Reporting under the Bituminous Coal Code. The recommendations summarized above had "been carefully reviewed and analyzed from the viewpoint that the statistical program should contribute as much as possible to the solution of the problems confronted in the administration of the Coal Code and should be organized as to methods of compilation and verification to merit unquestioned acceptance by the various areas within the industry, by labor and by the public." After discussion of the forms to be used and a careful definition of "Man Starts" the program proceeded to lay down the method of collecting and compiling statistics. Code Authorities were to be offered a choice between: sending the reports direct to N.R.A. for review and tabulation; or handling the reports in the Code Authority statistical office and sending results to N.R.A. for review and certification. It was estimated that 12 offices would elect to perform this statistical work in the Code Authority office. In these cases, "to provide adequate bases for checking, and verifying reported data and permit unqualified approval of results by N.R.A., two representatives of the Administration were provided for each of these twelve districts. One of these was to be an office representative whose duty was to be 'to supervise the work of collection, review, compilation and forwarding of statistical material and to carry out instructions as to checking individual mine reports, and preparation of uniform tabulation.'" This suggests

(*) Transcript, April 11, Day Session, pp. 611-616
(**) Minutes of Meeting, N.R.A. Files

that aside from the matters of verification and impartiality, these were questions of uniformity of preparation and comparability of data to consider. The second Administration official was to be a field auditor who was to "verify reports at individual mines, assisting in the preparation of mine reports whenever necessary, and otherwise assist in the collection of reports and the verification of results." With this organization it was proposed to collect monthly reports through November 1934. A detailed budget was submitted with this program amounting to $207,500 per annum. This amount would be reduced to $172,917 or .53 mills per ton of 1933 production, on the basis that the industry finance employees salaries from June 1, 1934 to April 1, 1935.(*)

This set up had been criticized by the chief of the N.R.A. coal research section on the basis that the 12 field auditors and office representatives would not insure accurate and comparable results. Twelve new men might be expected to differ in "ability, zeal and energy in supervising the work of the various offices." Past experience had indicated that work done in the Code Authority offices might have to be done over in Washington because of "many errors and discrepancies." (**) At a later date these objections were restated and enlarged by the technical adviser appointed to carry out the investigation of wage differentials provided for in amendments Nos. 1 and 2. "I do not see how," said this official, "the Central Statistical Bureau could be responsible for the collection, compilation and analysis of the data called for *** unless it was in a position to supervise all the processes involved." Again with reference to his own function: "The study of differentials would be greatly impeded and might even be subject to challenge if the data now being collected were dispersed among the several Code Authorities and subject merely to local control. (***)

The original proposal, out of which Amendment No. 4 came, was submitted under date of July 7, by Eastern Subdivision of Division No. 1. This draft provided for the setting up of statistical bureaus in each Subdivision under a Managing Director who might be secretary of the Code Authority but might not "be an officer, director or employee of any Producer." This agency was to receive and compile all data and, if violations of the Code were revealed by the data received, was to make reports to the Subdivisional Code Authority. The Presidential member of the Code Authority was to be given access to the records "to the extent necessary to determine the validity of any complaint." Expenses were to be assessed to the industry on a tonnage basis. This draft was submitted to the various code authorities and had been endorsed on July 27 by 6 Subdivisions of Division I, by Illinois Subdivision of Division II, by Division III, by both Subdivisions of Division IV, and by the Northern Colorado Division of Division V. Opposition was expressed by all the Subdivisions of Division V, except one, by 2 states in Division II and by the Michigan and Western Kentucky

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(*) Program, etc., Bulletin No. 27, N.R.A., May 7, 1934, N.R.A. Files

(**) Memorandum, F. E. Berquist to Leon Henderson, May 2, 1934, N.R.A. Files

(***) Memorandum, W.E. Hotchkiss to Leon Henderson, August 12, 1934, N.R.A. Files

Subdivisions of Division I. The last named district expressed its views as follows:

> "We believe the act itself and the Code are sufficiently comprehensive to provide for whatever statistics each Code Authority deems necessary to its individual requirement."

The opposition of Indiana was by a nine to eight vote. The Smokeless Code Authority voted unanimously for adoption of the amendment. The disapproval of Division V was based "upon the fact that the amendment was not necessary to proper Code Administration in the various districts of this Division and because of the expense involved." It will be noted that this action was a reversal of the comment from this area expressed at the Hearing on April 11. (*)

The proposed amendment was next sent out to the industry under date of August 1, together with a notice of opportunity to be heard. Instead of a public hearing, however, the procedure was adopted of inviting "criticisms, objections, or suggestions," to be submitted prior to August 11. The Administration reserved the right to modify the proposal in the light of information received. (**) On August 14, a revision was made at the instance of the Legal Division. The essential change was to make the Presidential Member of each Code Authority responsible for "collecting and compiling all reports." The Managing Director of each statistical bureau was to "operate under the direction of Presidential Member." The Legal Division was of the opinion that such enlargement of Administration Control was essential to make the statistical records legal as a basis for compliance suits. The revised form encountered "many objections from Code Authorities." (***) Quotations from the protest of the Code Authority of the Subdivision which sponsored the original proposal will indicate the character of these objections. "The revision," reads the letter, "is entirely unacceptable to our Code Authority. Our Code Authority is opposed to making a Presidential Member the sole custodian and agent for the receipt of trade association reports. Our Code Authority prefers that the statistical information collected by it from its members shall be handled by the official staff of the Code Authority, as it is paid for by the operators directly." The Subdivision was not opposed, however, "to the establishment of a Division of Research and Planning to do such statistical work and research work as would be properly national or inter-district in scope." (****)

Under stimulus of these objections the final draft of the proposed amendment was sent out on September 17. "This final draft," said the covering letter, "incorporates practically all the contents of the original

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(*) Letters and Telegrams, N.R.A. Files

(**) Administrative Order, No. 24-52

(***) Memorandum, Deputy Administrator, Ellis, September 18, NRA Files

(****) Letter of Charles O'Neill, Chairman, Code Authority, N.R.A. Files

proposed amendment which was approved by the major portion of the industry, and omits the features which were objectional to the Code Authorities, but includes points deemed necessary by the Legal Division." This revision placed custody of cost and price data in the hands of the statistical bureaus set up in each divisional and subdivisional area. It charged such bureaus with the duty of compiling such records. The Managing Director was to report any violation of the Code disclosed by these data to the Presidential Members, who was given power to require other reports and who was given access to inspect the books and records of producers. A new section (9) was written in as follows:

> "All producers subject to the Code shall furnish to any government agencies designated by the Administrator such statistical information as the Administrator may from time to time deem necessary."

This will be recognized as a copy of the clause on this subject in the proposed general code.

This final revision received the approval of all divisions of N.R.A. These were not unqualified in all instances. Thus the Labor Advisory Board was of the opinion that it would be far preferable to have the collection and compilation of reports placed under "the direct supervision of a central statistical agency of the Administration if only for sake of uniformity and comparability between the several divisions and subdivisions." The Consumer Advisory Board suggested that the proposal should be so amended "as to give greater assurance of impartiality." The Director of Research and Planning added the following comment to his approval:

> "It is understood that this in no way overlaps or replaces the Bituminous Coal Statistical Unit of the Division of Research and Planning nor takes away any of its functions."

This qualified approval was dated October 31, 1934 and seems to represent the last barrier to final action. Most of these approvals bear dates near September 20. On November 5, the Amendment received the approval of the National Industrial Recovery Board and became immediately effective.

This recital has significance for the light it throws on the deep seated nature of the bituminous coal operators' determination to control their own affairs with the minimum of governmental restraint. Not even the acknowledged benefits of the Code and their evident keen desire to continue and enlarge those benefits could shake their conviction that the confidential data reported must repose in the keeping of men drawn from the industry, not in governmental files. From their viewpoint it was unfortunate that such convictions regarding the private character of price and cost data do not square with the desire of these operators to have governmental approval and authority behind their system of fixed prices and of a regulated industry. If fixed prices are to be relieved from the taint of monopolistic practice they must be authorized by fully informed governmental agencies.

Amendments Nos. 5 and 6 were resultant from the continual difficulties experienced under the Bituminous Coal Code over the maintainance of fair prices. Full treatment of this subject will be found in the discussion of

prices under the Code. At this point only a summary statement of events preceding the adoption of these amendments will be presented. The Code as approved September 18, 1933 had no provisions for administering these fair market prices beyond their determination by marketing agencies or code authorities with indefinite powers of approval and review by Presidental Members and the Administrator. Contests immediately developed between competing districts over their relative prices. (*) By June 1934 these disputes had reached an acute stage, requiring machinery for settlement. Temporary expedients were adopted in Division I and II at the suggestion of the Deputy Administrator, providing for the publication of price changes at a sufficiently early date to allow of their review by interested parties. Thereafter an attempt to correlate competitive prices might be made in meeting of joint marketing committees. Later in the same month the Presidential Members of the subdivisional Code Authorities in Division I (excepting Western Kentucky), were constituted a Board of Review. Decision of this Board to be binding must be unanimous. In July the so-called Adams plan was set up in Division I providing for an allocation of tonnage to the different subdivisions. Maintenance of this allocation was to be effected by periodic price adjustments. The immediate cause for amendments, Nos. 5 and 6 was the announcement on December 12 of the Western Pennsylvania subdivision that they would not continue their support of the Adams plan after December 31, 1934.

Further complications arose because of the publication of statements by prominent N.R.A. officials to the effect that price-fixing provisions in all codes would be discontinued. In response to representations made formally in resolution sponsored by the Code Authorities of Divisions I, II, and III, and informally by interested groups of operators to members of the Administration, the National Industrial Recovery Board issued a statement in October declaring:

> "The Bituminous Coal Code of Fair Competition and all its provisions are in full force and effect. If at any time it should develop that changes should be considered, none will be made by the National Recovery Administration until the industry has been consulted and has been given an opportunity to be heard." (**)

By this time a serious abuse had developed threatening the disruption of the entire price structure. Orders were being solicited for contracts running beyond the termination of the Code, at Code prices until June 16, 1935, and at prices after that date which made the entire contract an attractive proposition. Complaint was made also that contracts effective before the Code was adopted were being extended for a year or more from April 1, 1934, thus, in effect, undercutting the code prices.

(*) See the Records of the first meeting of the National Bituminous Coal Industrial Board, January 16-19, 1934, N. R. A. Files

(**) Bulletin, National Coal Association, October 13, 1934.

These practices led directly to the proposal of an amendment by the Smokeless Subdivision by which the making of a contract for future delivery, carrying a price below the fair market price effective on the date of the contract, because a violation of the Code. The covering letter expressed the belief of the Code Authority that this proposed amendment would "prevent and set at rest a great deal of uneasiness that will become more noticeable in the industry as we approach the contract period for the coming year." This proposal was under date of November 20. It was sent out to the Code Authorities and secured approvals: in Division I; Eastern subdivision, Northern Panhandle of West Virginia, Ohio, Northern West Virginia, Southern Number 2, Western Kentucky and Michigan; Division III; Division IV, Arkansas-Oklahoma; Division V, Utah. Approval of the Eastern subdivision was by unanimous vote. (*) The only record of disapproval found was that of Western Pennsylvania, also by a unanimous vote. On December 27, notice of public hearing on January 4 was issued. This covered the above proposal as "Schedule A" and also a proposed amendment "Schedule B" written in the N.R.A. Legal Department, the essential clauses of which provided that the "National Industrial Recovery Board through such agencies as it may designate, shall investigate costs and thereafter shall proceed to determine and publish stated minimum prices."

Meanwhile the Legislative Committee of the National Coal Association had been busily considering these matters. The Committee reported having held sixteen meetings between June and October. They reported in the latter month, among other conclusions, that "the maintenance of fair minimum market prices is essential for the protection of hours of labor, rates of pay and condition of employment set up for the industry under the provisions of the Code." Later this Committee drafted a lengthy proposal for amendments to Article VI and VII of the Code covering the methods of determining, publishing and administering Code prices. This proposal included provisions for setting up of subdivision 1, divisional and of a National Coal Board of Arbitration to which boards matters in dispute could be taken for decision. These drafted amendments were approved by the Executive Committee of the Association on January 3, and submitted to the National Bituminous Coal Industrial Board meeting in Washington on that date. This Board debated the proposals at length in day and evening sessions, made certain modifications and injected their new version into the public hearing which convened on the following day. Their draft agreed in essential provisions with the National Coal Association version. However, it provided for a single National Board of Arbitration to which individual producers, subdivisions or divisions might appeal. Hearings were to be arranged before price making bodies, either marketing agencies or code authorities, in the case of complaints regarding published prices by interested parties.

Neither in the public hearing on January 4 nor in the much more important meetings of the National Bituminous Coal Industrial Board on January 3 and 4 was any objection encountered to "Schedule A" beyond that of the Western Pennsylvania Code Authority. The National Coal Association draft

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(*) See statement by the chairman, Transcript of Hearing, January 4, p. 102

included these provisions also. Accordingly, this amendment moved promptly to adoption. Under date of January 7, 1935, the approval of N.R.A. Advisory Boards was secured. This was usually routine and unqualified. Research and Planning expressed its approval in more vigorous fashion. "The Division feels," reads the letter, "that this amendment is absolutely essential to effectuate the purposes of the Code and accordingly recommends the adoption of the amendment at the earliest possible date." Inasmuch as this adoption took place next day and provided that the amendment be immediately effective, the action taken may be regarded as an explicit adoption of this suggestion.

Despite the pressure for immediate action the amendment of price-fixing measures, which were the subject of Amendment No. 6, proved a more difficult and lengthy process. The fundamental difficulties were two. On the one hand the whole matter of price-fixing as a public policy was under heavy fire; on the other there was the perennial contest between advocates of governmental price-fixing and those who would retain control of price matters in the hands of representatives from the industry. This fundamental difference of viewpoint is clearly illustrated in the two proposals under discussion. Governmental price-fixing was definitely written into "Schedule B." Control of prices by the operators was the keynote of the amendment proposals originated by the National Coal Association and adopted with modifications by the National Bituminous Coal Industrial Board. A direct quotation will be helpful. "I think it is perfectly plain," said one member of the board, "to every operator in this room and to all other representatives that it is very necessary to have some sort of price-fixing." "We are for price-fixing definitely within the industry, subject to all the necessary veto powers of the Government in order to protect the public."(* These quotations seem to represent fairly the opinions expressed at the board meeting by industry members with one exception. An operator from the Panhandle of West Virginia attending the same meeting expressed himself vigorously on this question. "We are very much in favor," said he, "of the governments' fixing the prices. We do not feel that the Government or any other group could make such a colossal blunder in fixing and carrying out price-fixing arrangements as these Code authorities, as presently constituted, have done. We welcome the opportunity to work with the Government on a price-fixing program such as they outline here in their proposed amendment." (**)

Despite these difficulties and differences of opinion fairly prompt action was secured. After the public hearing on January 4, the National Bituminous Coal Industrial Board held further unavailing meetings and conferences with N.R.A. officials. An adjournment was then taken to allow the operator representatives to return home and consult with their constituents. On returning January 9 their recalcitrant attitude toward governmental price-fixing had been reenforced. The record of the public meeting on that date indicates an almost complete impasse. Spokesmen for the industry made an effective point of the need for immediate action coupled with the statement that "a change in the price-fixing machinery and methods

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(*) Mr. D. C. Reay, eeting of N.B.C.I.B., January 9, 1935, p. 18

(**) Mr. T. G. Mathiott, Ibid, p. 19

at this time would only add confusion, rather than be helpful." (*) In an effort to find a way through, the essential feature of the N.R.A. proposal, price-fixing by the National Industrial Recovery Board, was incorporated in the National Bituminous Coal Industrial Board draft. This clause read: "The National Industrial Recovery Board, through such instrumentality as it may designate, shall establish and publish schedules of minimum fair market prices for the various grades, sizes and classifications of coal." This compromise proposal was debated on January 10, and after a night's delay, to allow some consideration and communication by wire with the home front, came to a vote on January 11. It was defeated by an 8 to 6 vote. The labor representative was recorded as "passing."

In order that the attitude of members of the Board may be clearly presented, it will be appropriate to include here a direct quotation from a leading member.

> "I want it clearly understood that the gentlemen who voted against that motion are not doing so because they wanted this price structure to break down. I think that most of us feel that it is a peculiarly inappropriate time for this proposal to be advanced.
>
> "We are all on notice that there will be legislation in this present session of Congress, the question of whether price control in this industry shall be exercised with the initiative proceedings from the operators, or whether it is to be imposed by the Government being one of the issues around which that legislation will be fought.
>
> "Therefore, we feel that it is peculiarly unfortunate that the representatives of the Government at this time should propose the initiation of the Government control and fixing of prices, and that it be done under the implied threat of a withdrawal of any price stabilization in the industry if it is not acceded to." (**)

The member just quoted moved that a small committee from the Board be appointed to confer with the National Industrial Recovery Board " with a view to seeing if it is not possible to continue price stabilization, either as it is now or with the amendments proposed by the National Coal Association or some other appropriate amendments that are in accord with the present code."

On January 16 this committee reported back to the following effect: "If we can say to the National Industrial Recovery Board that the members of this Board, without a dissenting voice, advocate putting into effect the proposals which we made a week ago Friday, that these will be put into effect, if not for an indefinite period, certainly for a period of three months from now.(***) Such a unanimous vote was accordingly secured. The proposal was submitted to the Advisory Boards and secured their assent albeit, in some cases, grudgingly given. The Industrial Advisory Board gave an unqualified approval. The Labor Advisory Board "had no comments to offer." The Legal Advisory

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(*) Ibid, p. 3, Statement of Mr. O'Neill

(**) Mr. Morrow, Transcript of Hearing, January 11, p. 20

(***) Transcript of Meeting, January 16, 1935, p. 3

Board "passed the subject" on the basis of facts presented to indicate that the existing provisions are entirely inadequate and insufficient to maintain the hours and wage provision of the Code and "with the determination of the Board that the subject will be effective only through April 30, 1935." In similar tenor the Research and Planning approval limited the effective period to 90 days and expressed the belief of this section that the amendment "did not give material promise of improving the stability of the price structure in the coal industry." Wider proposals were made by the Consumer Advisory Board. Its members had been "given to understand that the National Industrial Recovery Board has promised this industry a further opportunity to experiment in self government." Although they felt in some measure constrained by this promise they considered that the amendment "failed to afford adequate protection of the public interest and would undermine confidence in the administration of the Act." They proposed to add representatives of consumers to the Board of Arbitration, nominated by their Board, together with others responsible for statistical information to be nominated by the Division of Research and Planning. In addition to these precautions the Board decreed that N.R.A. should retain the right of reviewing decisions of the Arbitration Board and Code Authorities. These approvals bear dates between January 21 and 24, inclusive. On January 25, Amendment No. 6 was approved. The report of the National Industrial Recovery Board to the President cites two reasons for the amendment: the existing provisions "are entirely inadequate in view of the necessity for changing and improving the methods and procedure in establishing fair market prices;" and "an extreme emergency confronts the Industry occasioned by the custom of making forward contracts, under which the price for the delivery of coal might jeopardize the hour and wage provisions of the Code, resulting in serious labor disturbances to the detriment of the public." With reference to the last clause, it may be pertinent to interject here that wage agreements lapsed April 1, 1935, and that the President of the United Mine Workers had been a member of the small committee which dealt with the National Industrial Recovery Board in the final negotiations for this proposal. The Amendment became effective immediately and remained effective only until April 30, 1935.

Amendment No. 7 provided that each divisional and subdivisional Code Authority should "have one member who shall be selected from nomination submitted by the accredited and recognized organization of employees." Although this provision was not incorporated into the Code until late in its history, it must not be presumed that labor representatives were without influence in the Bituminous Coal Industry throughout Code history. From the organization of N.R.A. the President of the United Mine Workers had been one of the most influential and forceful members of the Labor Advisory Board. On January 15, 1934 he was appointed to the National Bituminous Coal Industrial Board. Next day he signalized his entry into the councils of this Board by the following pronouncement:

> "I would like to participate as a member of this Board in a constructive way. I don't want in any way to embarrass the members of the Board who are operators by being too forward in making suggestions. I recognize that the primary obligation for the management of the commercial side of the industry lies with the operators. I want to encourage them and to assist them to make good their obligation, but I want it thoroughly understood that failing in their

> attempt to regulate this industry under the self-government plan that the interest I represent is not disposed to sit idly by and see the structure which has promised so much for all the people of the industry, who have been in misery for years, pulled down inch by inch and step by step to the state of demoralization that existed before we undertook this great experiment."(*)

He put his thought explicitly in another passage. "If the Bituminous Coal Industry," said he, "is unable to govern itself to a point where it can protect the price structure, the interest I represent will regard the situation as a breach of the contract, and will undertake to withdraw our members from the mines in the coal areas where the situation exists until such time as the situation can be ironed out." (**) The immediate emergency was met without calling upon the union to make good this commitment. But the possibility persisted and was renewed in a letter written by the union president to the Administrator under date of December 17, 1934. The paragraph of significance here read:

> "Failure upon the part of the National Recovery Administration to take effective steps to meet the menacing situation in the Bituminous Coal Industry will compel the United Mine Workers of America upon its own initiative, to take such steps as may be deemed necessary to protect the interests of its membership."

This letter was mimeographed by certain Code Authorities and went out to "a great number of the representatives of the industry." (***)

It will be noted from the date of this communication that it made part of the discussion leading to the adoption of amendments Nos. 5 and 6. The letter had called for a meeting of the National Bituminous Coal Industrial Board to consider appropriate amendments. The writer of the letter took occasion at the following meeting of this Board to propose the amendment providing for labor representation on code authorities. This was first done at the close of the second day's meeting, January 4, 1935, without sufficient opportunity for discussion. It was defeated by an 8 to 7 vote.(**** On January 11, Mr. Lewis renewed his motion which was carried, without debate, by a vote of 10 to 4. (*****) Negative votes came from the South and the Southwest.

Failing an expression of arguments at the meeting a summary of Mr. Lewis'

((*) Minutes of Meeting of National Bituminous Coal Industrial Board, January 16, 1934, p. 44
(**) Ibid, p. 41
(***) Transcript of Hearing, January 4, 1935, pp. 79-81 Full text of letter on pp. 94-97

(****) Transcript, p. 388

(*****) Transcript, pp. 34-36

remarks to this point before the public hearing on Employment Provisions in Codes of Fair Competition may be stated. He spoke on January 30 as a representative both of the United Mine Workers and of the N.R.A. Labor Advisory Board. His remarks on this subject have been officially summarized as follows:

> "The National Coal Industrial Board has endorsed an amendment for labor representation on the coal code authority. Labor has a right to representation on code authorities because labor is the residual sufferer from errors of management; labor has a stake in industry, in intelligent management and operation and has an equal right to contribute to an intelligent solution of the problems. The only objection which industry can have is that they do not wish to associate with representatives of labor in private councils which dominate industry." (*)

(*) Abstracts of Speeches at the Hearing, p. 16

Pursuant to the favorable vote received in the National Bituminous Coal Industrial Board, the proposed amendment was sent out to the industry. There was considerable opposition. This was summarized by the Acting Deputy Administrator in the following terms:

> "A few protests to the Amendment have been received, including Code Authorities which represent a relatively small minority of the total coal tonnage production of the country. The nature of the protests against labor representation, as received, is briefly summarized as follows:
>
> 'No demand and unnecessary; might limit open and confidential discussions; might deter code support and enforcement; no substantial reasons for; violation of principles and policy of Code for self-control of Industry under Governmental supervision; unfair and unwarranted; breach of spirit of the Code; not serve any useful purpose; employees' interests amply secured by Labor Boards; Presidential Members sufficient on Code Authorities; no labor matters before Code Authorities; contracts give ample protection to labor and cover all angles of relationship; nothing to do with marketing of coal.'" (*)

By this time the movement for labor representation in the Bituminous Coal Industry had reached the point where two Code Authorities had voluntarily elected labor members and a third had initiated steps for such election. Notice of opportunity "to submit criticisms, objections or suggestions" before February 11 was sent out February 2. The Labor Advisory Board and Research and Planning Division gave unqualified approval. The Legal Division found it necessary to reconsider a previously expressed opinion. They were troubled by the absence of any provision that the National Industrial Recovery Board should "accredit and recognize the organization of employees" submitting nominations. On reconsideration the Division found that the language might be "validly subjected to this interpretation" and passed the draft submitted. The Consumers' Advisory Board took advantage of the opportunity to suggest, again, the inclusion of consumers' representatives on code authorities. The Board's letter further suggested that these additional members might appropriately be nominated by the Labor Advisory Board and the Consumers' Advisory Boards respectively. The Industrial Advisory Board gave disapproval to the measure. Its members were not willing "to accept the principle that labor should have the right to participate on an equal basis with management under any plan of industrial self-government." They recognized that certain highly organized industries have labor representatives on code authorities both with and without vote.(**)

(*) Volume II, Amendment No. 7, p. 2

(**) Volume II on Amendment No. 6 in N.R.A. Files

The reconsideration of the Legal Division's opinion, dated March 23, seems to have removed the last barrier to final approval since this action was taken next day. The Administrative Officer of the National Industrial Recovery Board took occasion in his letter to the President, recommending approval to say:

> "This is a highly organized industry and the request of the National Bituminous Coal Industrial Board for a representative to be a member of each Divisional and Subdivisional Code Authority is considered to be fair, and it is believed, and we have accordingly so found, that the services of members upon each Code Authority selected from organizations of employees *** will tend to facilitate the Administration of the Code and procure compliance therewith."

The Amendment was accordingly approved by the President to be effective immediately.

The final amendment to the Code which was No. 8, did not change the substance of any part of the Code. It simply provided that certain provisions should be extended unchanged to June 16, 1935, which was the termination date of N.I.R.A. The wage and hour provisions were to expire April 1, 1935. The Joint Wage Conference sitting at this time had failed to reach agreement on March 30. In this emergency the National Bituminous Coal Industrial Board was hastily called to consider the situation. They proposed, with the sanction of representatives from both the union and the operators, that the existing provisions be extended as stated. Since the fair trade practices, method of establishing prices and administration set up by Amendment No. 6 were to expire by limitation on April 30, the same extension was recommended for these sections. Action of the Board was unanimous except for the qualified votes of the two representatives of Division III. They had asked for a review of their wage and hour situation and did not wish their accord with the proposed amendment to prejudice that case.

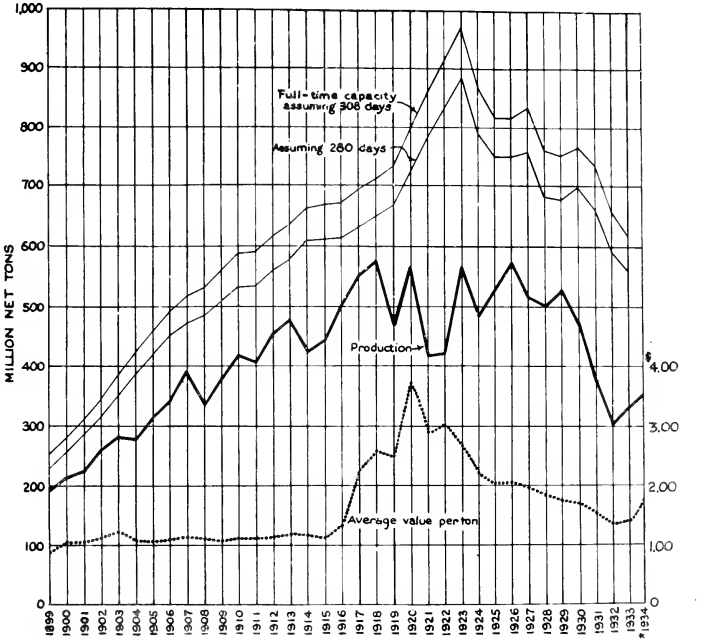
The urgency was so great that no attempt was made to secure public expression regarding the amendment. The Advisory Boards were asked to pass on the proposal and gave unqualified approval except in the case of the Consumers' Advisory Board. That body repeated its recommendation for consumer members on Code Authorities made in connection with Amendments Nos. 6 and 7. The Acting Deputy Administrator in his letter recommending approval included the following statement:

> "The National Bituminous Coal Industrial Board, consisting of representatives of employers, of employees, and of the Government, believes that an extension of the presently existing rates provided in the Code to June 16, 1935 will afford at least a continued opportunity to secure agreement upon a new schedule of minimum rates without the tremendous economic loss to the nation which closing a large number of mines on April 1, 1935, by reason of lack of provision therefor, would certainly occasion.

"The proximity of the expiration date, April 1, 1935, of the provisions involved and the emergency confronting the Industry do not permit of holding a public hearing."

It is worthy of note that this Amendment met the emergency successfully by passing through all its stages in a single day. The minutes of the meeting of the National Bituminous Coal Industrial Board, all the letters of approval by advisory boards, the covering letter recommending approval, and the final approval of the National Industrial Recovery Board all bear the date of March 30. In the light of this evidence the conclusion seems warranted that by that date N.R.A. machinery had been keyed up to a high pitch of efficiency.

BITUMINOUS COAL PRODUCTION, REALIZATION AND MINE CAPACITY IN THE UNITED STATES 1899 - 1934.



SOURCE: U.S. GEOLOGICAL SURVEY AND U.S. BUREAU OF MINES.
PREPARED BY BITUMINOUS COAL UNIT
DIVISION OF REVIEW, N.R.A. UNDER DIRECTION OF F.E. BERQUIST.
9837

*CAPACITY UNDER N.R.A CONDITIONS AND WORKING TIME NOT AVAILABLE

CHAPTER III 1/

PRODUCTION AND DISTRIBUTION BEFORE AND UNDER THE CODE

A. Production and Mining Capacity: The trend of bituminous coal production shows a continuous upswing until the War period, and then flattens out for the subsequent years. The only serious deviation from the level established by the War occurred after 1929. Another feature is that mining capacity has always exceeded actual production, and often by large amounts. The trend of capacity, however, fails to follow the same course as that of production. Where production tends to reach a given level during the War years, mining capacity continues to increase, jumping sharply upward after 1910, and failing to shape back towards its former relationship with output until after 1933.

The upswing in the trend of bituminous coal production was rapid. Output practically doubled in each of the two decades following 1890. Production during the latter year amounted to 111 million tons and this was increased to 212 millions for 1900, and 417 millions for 1910. The half billion mark was reached for the first time in 1916, about the time the trend began to flatten. It will be noticed for the succeeding years, until the depression that annual output shows a tendency to fluctuate around the 500 million mark. During the depression output dropped to 310 million tons for 1932, the lowest annual output since 1904. Improvement is noted for the next two years, production advancing to 334 million tons for 1933, and 358 million tons for 1934.

The mining capacity index shows the possible production of the existing labor force over a given number of days. Generally a base of either 306 working days or 280 working days is used in setting up the measure. The former is a full working year, while the base of 280 days makes allowance for break-down or other operating disruptions. Capacity based either way has always exceeded actual production. By using the measure of 280 working days, capacity was nearly twice as great as production in 1922, and 27 per cent greater in 1929. Not only has capacity been above production over a year but also during seasonal production peaks. (See "America's Capacity to Produce", Nourse & Associates, p. 448). It is to be noted, however, that mining capacity has not always been a measure of the possible amount of coal that could be made available to consumers. Production was limited during many of the months of the War and Post-War periods by transportation shortages.

Production and Industrial Activity: At least four-fifths of the bituminous coal tonnage is consumed by industry. Not only is there little or no storage at the mines, but a large part of industry has no facilities for storage over any considerable period. Purchasing coal according to present needs is accepted practice. As a result, coal mining is sensitive to general changes in general industrial production.

The relation of bituminous coal production to general business activity is measured in the annual indexes of the Federal Reserve Board.

1/ Prepared by George A. Lamb.

indexes. For instance, many of the commodities in the general index were still in a stage of development for some years after 1919, while bituminous coal had reached a peak during the War.

INDEX OF BITUMINOUS COAL PRODUCTION AS COMPARED WITH INDEX OF INDUSTRIAL PRODUCTION, BY YEARS, 1919-1934

(1935-1939 average = 100)

	Index Industrial Production			Bituminous Coal Index
	Total	Manufactures	Minerals	
1919	83	84	77	89
1920	87	87	83	109
1921	67	67	70	79
1922	85	86	74	78
1923	101	101	105	108
1924	95	94	96	93
1925	104	105	99	99
1926	108	108	108	110
1927	106	106	107	99
1928	111	112	106	96
1929	119	119	115	102
1930	96	95	98	89
1931	81	80	84	73
1932	64	63	71	59
1933	76	75	82	64
1934	79	78	86	69

SOURCE:

Federal Reserve Board.

The changes of the two indexes are generally similar. Exceptions are found for two different periods; 1919-1921, and 1927-1929. A partial explanation for these differences may be found in the make-ups of the indexes. For instance, many of the commodities in the general index were still in a stage of development for some years after 1919, while bituminous coal had reached a peak during the War.

The marked seasonal character of bituminous coal production is indicated in the accompanying table. These figures represent an average index for monthly production for the years 1920 to 1934. The index was figured by using monthly data for the years shown, adjusting with a 12-month moving average, and then obtaining the arithmethic means of the items of each month after extremes had been eliminated. It will be seen that October, on the average, was the peak month, followed in order by January, December, and November. A difference of 37 points separated the low month of April from the October high. An average monthly index for general industrial production is not available for a comparable period, but those published fail to show as wide a range between the high and low months as do the bituminous coal indexes, or do the industrial indexes correspond generally to the bituminous coal indexes.

Average Monthly Indexes for Bituminous Coal Production in the United States, 1920-1934 (*)

January	115.0
February	101.7
March	103.1
April	80.9
May	86.2
June	87.5
July	89.2
August	98.1
September	103.2
October	117.3
November	107.5
December	109.7

(*) Tonnage Data from U.S.Bureau of Mines

B. Production of Areas:

Mining areas lend themselves to various classifications of both geographical and geological nature each of which is used at one time or another.

Geological Provinces: The Northern and Middle Appalachian province, generally referred to as the Appalachian region, includes the bituminous coal fields in Pennsylvania, Ohio, Maryland, West Virginia, Eastern Kentucky, Virginia, and Tennessee. This province accounts for 70 per cent of the production of the United States. The next region in importance is the Eastern Interior, including Illinois, Indiana, and Western Kentucky, which mines 17 per cent. Another 3.5 per cent is produced in the mines in Alabama, sometimes termed the Southern

Appalachian province. The remaining production, less than 10 per cent, comes from areas scattered throughout the country, the most important of which is the Rocky Mountain region with 5 per cent of the total. The rest of the tonnage includes the output of Michigan, Iowa, Missouri, Kansas, Arkansas, Oklahoma, Washington, and of the lignite fields in North Dakota and Texas.

Production by States: As between states for the year 1934, West Virginia was the leading coal producer with 27.4 per cent of the total output, with Pennsylvania as a close second with 24.9 per cent. The standing of other leading states in production is as follows: Illinois with 11.4 per cent; Kentucky, 10.6 per cent; Ohio, 5.8 per cent; Indiana, 4.2 per cent; and Alabama, 2.7 per cent. For the states west of the Mississippi River, Kansas and Colorado, 1.6 per cent and 1.5 per cent respectively, lead in output. The relative positions of the coal producing states have shifted at various times. Pennsylvania was the leading producer until 1927, when West Virginia advanced to the lead for the first time. The former state returned as leader by a slight margin in 1928 and 1930, and then gave way to West Virginia for the succeeding years. The relative importance of Illinois has decreased in the last decade. For a number of years prior to 1923, Illinois produced about the same amount of coal as West Virginia, while until 1926, it exceeded Kentucky. During the time that Illinois had decreasing tonnages, both West Virginia and Kentucky were enjoying increased outputs, the former pushing above Illinois by 1926, and Kentucky reaching the Illinois level by 1926, a position it has since held. Ohio produced at about the same level as Kentucky until 1923, but thereafter showed a decrease, while Kentucky advanced to a higher position. Thus, since the War, Pennsylvania, Illinois and Ohio have lost in relative standing among the leading coal producing states, while West Virginia and Kentucky have bettered their positions. Indiana has shown little tendency to change its rank in production, but Alabama, from about 1924, has experienced a steady decline in output until 1933, when it appears that its downward course was checked. Kansas enjoyed a better position in 1934 than for many years, while the other large western producer, Colorado, has shown little absolute change for many years.

Production by Fields: Designations for coal fields have been adopted by the United States Coal Commission and defined in detail in Part IV of its reports. The leader for many years has been the Pittsburgh field which mined about 21 million tons in 1933, or 6 per cent of the total tonnage in the country. Other leading fields are Connellsville; Central Pennsylvania; Fairmont in Northern West Virginia; Panhandle - Pittsburgh No. 8 in West Virginia and Eastern Ohio; Pocahontas, Tug River, and Winding Gulf, the low volatile group in Southern West Virginia; and Kanawha and Logan of the high volatile fields in Southern West Virginia. Ohio's tonnage is fairly well distributed over a half dozen fields. Eastern Kentucky is largely made up of Northeast Kentucky, Hazard and Harlan. Central and Southern are the largest fields in Illinois. As to the Appalachian region, the designation Northern and Southern fields are often used. A line drawn from east to west through the center of West Virginia roughly is the division between the two groups, with Eastern Kentucky falling in with the Southern fields.

Production by Code Areas. The code areas were set up usually with regard to geological and geographical characteristics, and for that reason the tonnage comparisons already made may be applied to the Code Divisions and Subdivisions for general purposes. Production figures for the code territories, however, have been compiled for the years 1930 - 1934. In regard to Division I, it may be said that the largest losses for the area of the Northern Subdivisions took place in the first half of the 1930 to 1934 period, with the important gains for the area of the Southern Subdivisions being registered at that time. The decreases in the Northern Subdivisions were less than the increases in the Southern Subdivisions. In general, it may be concluded that the largest losses for the Northern Subdivisions took place in the first half of the 1930 to 1934 period, and that the important increases in the Southern fields were also registered at that time. The decreases in the Southern fields were also registered at that time. The decreases in the Northern Subdivisions were less than the increases in the Southern Subdivisions.

Over the 1930 - 1934 period, mines falling in Division II lost a large part of their proportion of the national tonnage. These mines accounted for 22 per cent of the total production in 1930, as against 16 per cent in 1934. Illinois was the largest loser. It is evident that the losses encountered in Division II were to the gain of Division I and, in turn, the gains in Division I were made by the Southern Subdivisions.

The depression affected all the mining areas in about the same manner. The shares of the various Divisions in the total tonnage changed little after 1929, and the same is true of the Subdivisions. Neither did a great deal of change appear after the Code. Western Pennsylvania, which hit a low point due to the depression, advanced again by 1934, while the Ohio Subdivision apparently was able to better itself under the Code operation.

C. Distribution of Bituminous Coal:

Data that give the flow of bituminous coal from mines to markets are not complete for any single year, though for 1929 information is available for the origin of tonnage consumed by states, exclusive of railway fuel and bunker fuel. This is the most detailed record of movements for any of the years since the War. In addition, there is also available for 1929 the origin of bituminous coal used by all railroads of the various districts designated for reporting purposes by the Interstate Commerce Commission. Statistics on particular movements have been recorded for other years and provide helpful measures of changing conditions taking place in the distribution of bituminous coal.

The flow from the Appalachian fields, because of varied transportation facilities and location of markets, assumes a number of definite movements. One of those is the tidewater movement which consists of the tonnage moved to eastern ports by rail, dumped over the piers, and loaded on vessels for reshipment or use. In 1934, this amounted to 29 million tons, or slightly over 11 per cent of the coal

produced in the Appalachian fields. Another movement is to the Great Lakes where, like the tidewater tonnage, the coal is reshipped by vessel, or used as bunker fuel. Commercial tonnage shipped to Lake Erie for transhipment is known as lake cargo coal, and accounted for 36 million tons in 1934, or 14 per cent of the Appalachian production. Coal shipped all-rail to New England points is compiled currently, but not by fields of origin. This movement amounted to 5½ million tons for 1934. For the same year, all-rail coal to Canada, which is separate from lake cargo coal, exported to that country, amounted to 730 thousand tons. A movement distinct in character is in connection with the tonnage originated by vessels on the Ohio River and its tributaries, which amounted to 12½ million tons in 1930, the latest year of available data. Most of this river tonnage moves but a short distance, though part, known as ex-river coal, is reshipped by rail. The rest of the Appalachian coal moves to market all-rail, except for trucked tonnage which has become prominent in late years and represented about 5 per cent of the shipments in 1933. A majority of the trucked shipments moves from mines to adjacent markets. An important all-rail movement reported currently is westbound from the Appalachians. This movement, amounting to 69 million tons in 1934, not only reflects the important competitive situation between the Appalachian fields as to the large western market, but also shows how these fields compete in a common territory with those mines located in Illinois, Indiana and Western Kentucky. Concentrated movements are not general for fields outside the Appalachians where, instead, a smaller amount of coal is produced and distributed to many markets over a wide area.

Movements of Bituminous Coal in 1929: The detailed statistics for 1929 provide an excellent cross-section of the flow of bituminous coal. This material shows the wide market for the larger fields, and the general interstate character of bituminous coal marketing. It indicates that not a single coal producing state furnished its own coal requirements, and that there was not one producing field not in competition with one or more other fields.

According to the state groupings, the largest amount of coal consumption is in the East North Central States: Illinois, Indiana, Michigan, Ohio and Wisconsin, which used 163 million tons in 1929. These figures exclude railway and bunker fuel, which by nature cannot be classified by state consumption, though two of the reporting railway districts, New England and Southern, may be made comparable because they follow state boundaries. In the larger consuming areas, railroad consumption follows the direction of general consumption. Bunker fuel is too small in tonnage to have great influence on the total results. The next largest amount of coal was used in the Eastern States. Both of these groups, East North Central and Eastern, together used 280 million tons, or 72 per cent of the total, a proportion that probably would change little if railroad fuel could be figured in. The order of importance as to coal consumption of the remaining groups are: West North Central and Southeast, each of which used about the same tonnage; and New England; Intermountain: Southwest; and Pacific.

The large market consisting of the East North Central States received 77 per cent of its coal from the Appalachian fields, over

four-fifths being delivered all-rail, and the rest, except for a small amount of ex-river tonnage, was shipped via the Great Lakes. The principal Appalachian fields shipping all-rail into this territory were Kanawha Logan; Kenova Thacker; Pocahontas, Tug River, and Western Pennsylvania. Tonnage moving from the Great Lakes is not listed by fields of origin. The remainder of the coal entering this territory, aside from a few thousand tons originating in miscellaneous fields, came from Illinois, Indiana and Western Kentucky. Nearly all the coal from the latter States, however, was confined to the Illinois, Indiana and Wisconsin markets.

Bituminous coal consumed by the Eastern States originated in the Appalachian fields, aside from a small tonnage imported. The larger part of this tonnage was mined in the Northern fields, of which Western Pennsylvania, Central Pennsylvania and Northern West Virginia were the most important. As between the Southern fields, the Kanawha-Logan-Kenova-Thacker district supplied the largest tonnage, followed by New River-Winding Gulf and Pocahontas - Tug River. The Southern fields, however, had a sizeable share in the tidewater coal consumed in the Eastern States.

The West North Central States obtained their coal from many sources, the largest amount originating in Illinois, with another heavy movement of the lake cargo coal. All-rail shipments originating in the Appalachian region consisted almost entirely of tonnage from the Southern fields. Producing states, such as Kansas, Missouri and Iowa, marketed most of their tonnage in the West North Central States while, also competing in this territory, were heavy shipments from Arkansas, Oklahoma, New Mexico, Colorado and Wyoming.

Alabama supplied 11½ million tons of the bituminous coal consumed in the Southeast, but nearly twice as much came to the same territory from the Southern Appalachian fields. Western Kentucky also shared in the market to the extent of nearly 4 million tons. Railroad coal used in the Southeast originated in the same general way as did the commercial tonnage.

Of the remaining groups of States, New England is the most important consumer. Approximately three-fourths of the bituminous coal consumed in New England was tidewater, including some imported coal, nearly all the rest moving all-rail from the Northern Appalachian fields. New England railroad coal originating in the Southern fields amounting to 60 percent of the total, was tidewater tonnage. The larger producing states in the far west market their tonnage over a wide area.

The sources of coal used for railroad fuel are given in Table . Illinois was the leading producer of railroad coal, followed by Northern West Virginia, Central Pennsylvania, and Pittsburgh. The Southern fields were able to share less in the railroad market as compared with other markets. Information supplied by the Bureau of Mines shows that freight was paid on only 31 percent of the railroad coal.

Interstate Character of Shipments, 1929: The extent to which bituminous coal shipments are interstate or intrastate have been calculated by the Bureau of Mines for 1929. Results of this study show that 74 percent of the total distribution was in the form of interstate shipments and railroad fuel, a conservative figure.

BITUMINOUS COAL SHIPPED TO NEW ENGLAND BY RAIL AND BY NORTHERN AND SOUTHERN TIDEWATER PORTS, 1919 - 1934, IN NET TONS
(Compiled from published reports of the U. S. Bureau of Mines)

		Tidewater shipments to NEW ENGLAND b			
	All-rail receipts in NEW ENGLAND a	From New York and Philadelphia and Baltimore	From Hampton Roads and Charleston	Total Tidewater	GRAND TOTAL
Net Tons:					
1919	9,655,000	3,132,213	5,253,169	8,385,382	18,040,382
1920	12,223,000	4,308,085	6,148,359	10,456,444	22,679,444
1921	8,374,000	2,840,707	6,017,924	8,858,631	17,232,631
1922	5,812,000	1,715,623	9,176,835	10,892,458	16,704,458
1923	9,634,000	3,702,907	9,671,413	13,374,320	23,008,320
1924	6,985,000	2,108,325	9,379,905	11,488,230	18,473,230
1925	7,756,000	2,257,249	11,206,213	13,463,462	21,219,462
1926	8,045,000	2,413,082	10,535,856	12,948,938	20,993,938
1927	7,232,000	2,239,410	12,589,571	14,828,981	22,060,981
1928	6,473,000	1,645,656	11,798,964	13,444,620	19,917,620
1929	6,781,000	1,569,976	12,874,909	14,444,885	21,225,885
1930	6,149,000	1,646,628	12,379,796	14,026,424	20,175,424
1931	5,611,000	1,098,673	11,547,464	12,646,137	18,257,137
1932	4,544,000	703,976	9,913,663	10,617,639	15,161,639
1933	4,787,000	791,171	10,559,355	11,350,526	16,137,526
1934	5,422,000	1,082,718	10,662,416	11,751,134	17,173,134

BITUMINOUS COAL SHIPPED TO NEW ENGLAND BY RAIL AND BY NORTHERN AND SOUTHERN TIDEWATER PORTS, 1919 - 1934, IN NET TONS
(Compiled from published reports of the U. S. Bureau of Mines)

(Continued from page)

Year	All-rail receipts in NEW ENGLAND a	Tidewater shipments to NEW ENGLAND b: From New York Philadelphia and Baltimore	From Hampton Roads and Charleston	Total Tidewater	GRAND TOTAL
Percent of Total					
1919	53.5	17.4	29.1	46.5	100.0
1920	53.9	19.0	27.1	46.1	100.0
1921	48.6	16.5	34.9	51.4	100.0
1922	34.8	10.3	54.9	65.2	100.0
1923	41.9	16.1	42.0	58.0	100.0
1924	37.8	11.4	50.8	62.2	100.0
1925	36.6	10.6	52.8	63.4	100.0
1926	38.3	11.6	50.1	61.7	100.0
1927	32.8	10.2	57.0	67.2	100.0
1928	32.5	8.3	59.2	67.5	100.0
1929	31.9	7.4	60.7	68.1	100.0
1930	30.5	88.2	61.3	69.5	100.0
1931	30.7	6.0	63.3	69.3	100.0
1932	30.0	4.6	65.4	70.0	100.0
1933	29.7	4.9	65.4	70.3	100.0
1934	31.6	6.3	62.1	68.4	100.0

a From records of the Commonwealth of Massachusetts, Division on the Necessaries of Life.

b Cargo coal dumped into vessels consigned to New England as reported by the railroads operating tidewater piers.

By F. G. Tryon and W. H. Young
Coal Economics Division
United States Bureau of Mines.

November 4, 1935.

Tidewater Movement: The data on particular movements, 1920 - 1934, adds further information to the data on production by areas. Where the production figures by years indicate shifts as between states, areas, or subdivisions, the data on movements show how these shifts have been related to changes in market areas.

Changes that have taken place in the origin of tidewater coal are readily apparent in the table entitled "Shipments of Bituminous Coal to Tidewater, 1920 to 1934 Inclusive", and the accompanying chart. Southern Subdivisions No. 1 and No. 2 have slightly increased their proportions, while the northern areas have lost. The annual tonnages of the tidewater movement have fluctuated a great deal, reaching a high of 58 million tons in 1926, when exports increased due to the British strike.

The final destination of tidewater tonnage has varied noticeably since 1920. During the earlier years of this period, both bunker and foreign fuel were of importance, and the rest of the coal was divided as to "inside capes", New England, and "other tonnage" or that coal shipped beyond the capes and destined to ports outside of New England. The tendency over the 15 years, however, has been for the New England coal and "other tonnage" to gain in importance until accounting for most of the tidewater movement, and for all the other divisions to decrease.

Interesting facts are brought out when the effect of tidewater coal on the New England market is given consideration. The proportion of all-rail receipts, which originate almost entirely in the northern fields, decreased after 1920, while the share of tidewater coal is increased. Likewise, the tonnage shipped from Hampton Roads, the port used by the southern fields, also increases over the period. Hence, the southern tidewater coal was increased in the New England market both at the expense of the northern all-rail and tidewater tonnage.

Lake Cargo Movement: Bituminous coal shipped to Lake Erie makes up the largest concentrated coal movement. A separate lake movement, though of far less volume, is found from Lake Ontario ports, but this cannot be included in the lake cargo description due to the absence of data.

The marked shifts as between the mining areas originating lake coal has been one of the outstanding events in the history of this movement. Even since 1920 large fluctuations are noticed for the producing regions. It will be seen, for instance, that the Ohio Subdivisions, which produced one-third of the lake coal in 1920, accounted for only 3 percent of the tonnage in 1927, and was not successful in regaining anything like its former status in the later years. Western Pennsylvania has sharp reductions after 1923, and did not begin to regain its old share in the lake business until after 1927. Northern West Virginia's proportion varied over the period, with a tendency to lessen in the recent years. Southern Subdivisions No. 2 gained rapidly after 1923, and though having some decrease after 1927, remains the leading producer of lake coal. The trend for Southern Subdivision No. 1 over the period has been a gradual increase in its proportion.

SHIPMENTS OF BITUMINOUS COAL TO MINNESOTA, 1920 to 1934 INCLUSIVE

(Tonnage figures represent thousands of net tons)

Code authority districts	1920 Net Tons	1920 % of Total	1921 Net Tons	1921 % of Total	1922 Net Tons	1922 % of Total	1923 Net Tons	1923 % of Total	1924 Net Tons	1924 % of Total	1925 Net Tons	1925 % of Total	1926 Net Tons	1926 % of Total	1927 Net Tons	1927 % of Total	1928 Net Tons	1928 % of Total	1929 Net Tons	1929 % of Total	1930 Net Tons	1930 % of Total	1931 Net Tons	1931 % of Total	1932 Net Tons	1932 % of Total	1933 Net Tons	1933 % of Total	1934 Net Tons	1934 % of Total
DIVISION NO. 1																														
Eastern Sub Division:																														
Central Pennsylvania 1/	13,031	24.24	9,680	25.94	5,895	20.71	10,496	27.84	8,961	24.27	7,613	20.51	9,847	17.10	6,678	17.65	6,751	19.45	7,470	19.63	8,096	21.66	7,286	23.76	6,160	23.00	5,727	23.11	6,289	25.68
Somerset 2/	5,055	9.47	3,326	8.91	2,378	8.35	2,735	7.29	2,550	7.01	3,411	9.19	4,220	7.33	4,305	11.38	4,718	13.58	4,552	11.91	3,865	10.40	3,399	10.15	2,525	8.69	2,013	7.42	2,184	7.46
Maryland - Upper Potomac 3/	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total, Eastern Sub Division	18,132	33.71	13,006	34.85	8,273	29.06	13,181	35.13	10,511	31.28	11,024	29.70	14,067	24.43	10,983	29.03	11,469	33.03	12,022	31.54	11,959	32.06	10,685	33.91	8,685	31.69	7,740	28.53	8,473	29.14
Western Pennsylvania Sub Division 4/																														
Ohio Division:																														
Ohio - all																														
Panhandle of W. Va. Virginia 5/	10,715	19.92	6,671	17.90	3,241	11.38	6,580	17.54	4,553	13.71	4,795	12.78	12,069	20.97	4,744	12.54	3,093	8.91	3,513	9.23	3,581	9.64	2,526	7.54	1,741	6.50	1,958	7.22	2,214	7.70
Michigan - all																														
Total Ohio Sub Division																														
Northern West Virginia 6/																														
Southern - Low Volatile 7/	17,497	32.77	13,804	36.89	14,401	50.56	11,618	30.99	14,966	46.05	16,601	44.72	20,826	36.17	16,982	44.77	15,993	44.92	17,303	44.95	16,363	44.12	14,678	47.83	11,670	43.58	12,492	47.53	13,746	47.82
Southern - High Volatile 8/	7,540	13.65	3,838	10.26	2,958	8.38	4,142	11.04	3,307	9.38	4,754	12.80	10,612	18.43	5,170	13.66	4,553	13.14	5,432	14.28	5,273	14.18	4,597	14.72	4,682	16.23	4,536	16.72	4,351	15.14
Western Kentucky 9/	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
GRAND TOTAL	53,784	100.00	37,319	100.00	28,873	100.00	36,521	100.00	33,837	100.00	37,184	100.00	57,574	100.00	37,839	100.00	36,718	100.00	38,838	100.00	37,179	100.00	31,486	100.00	25,778	100.00	27,126	100.00	29,783	100.00

SOURCE: United States Bureau of Mines.

1/ Includes U. S. Coal Commission Fields No. 6 Blossburg, 7 Broad Top; Pabc Central Pennsylvania.
2/ Includes U. S. Coal Commission Field No. 8 Somerset.
3/ Includes U. S. Coal Commission Fields No. 10, Maryland-Potomac (or Maryland plus Grant, Mineral and Tucker Counties, West Virginia).
4/ Includes U. S. Coal Commission Fields No. 1 Pittsburgh; 2 Connellsville; 3 Westmoreland-Ligonier; 4ab Freeport; 5 Butler-Armstrong.
5/ Includes Brooke, Hancock Marshall and Ohio Counties in West Virginia.
6/ Includes Monongalia, Preston, Marion, Harrison, Taylor, Lewis, Barbour, Upshur, Randolph, Braxton, and Webster Counties, and Nicholas County on Baltimore and Ohio Railroad (or U. S. Coal Commission Fields No. 11 Fairmont and No. 9abc except Clay and Kanawha Counties).
7/ Includes U. S. Coal Commission Fields No. 12 Clay River; 18 Pocahontas; 19 Winding Gulf; 20 New River; 21 Virginia Anthracite; 28 Richmond Basin; 32 North Carolina.
8/ Includes Clay and Kanawha Counties in U. S. Coal Commission Fields No. 9abc; 13 Mason County; 14 Putnam County; 15 Logan; 16 Thacker; 21 Kanawha; 22 Coal River; 23 Logan; 25 Southwestern Virginia; 26 Clinch Valley; 27 Northeastern Kentucky; 33 Hazard; 34 Harlan; 35 Southern Appalachian 40 Jellico; 43 Pentress; and northern part of No. 45, namely mines in Anderson, Morgan, and Roane Counties and Cumberland County except on the Nashville, Chattanooga and St. Louis Railroad. This includes all high volatile districts of Northern West Virginia, Eastern Kentucky, Virginia, and Northern Tennessee.).
9/ Includes U. S. Coal Commission Field No. 41 Western Kentucky.

Prepared by B.Lubin and Co., Unit
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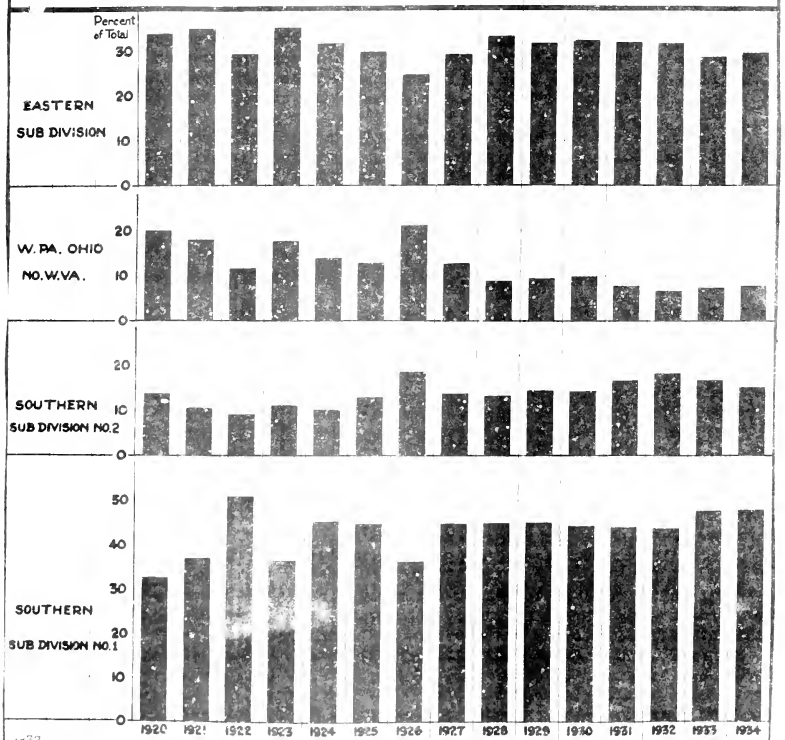
Under Direction of F. S. Berquist

Shipments of Bituminous Coal to Tidewater: Relative Importance of N.R.A. Sub-Divisions – 1920 - 1934



Source : U.S. Bureau of Mines.

SHIPMENTS OF BITUMINOUS COAL TO LAKE ERIE, 1920 to 1934 INCLUSIVE, (Cargo coal only) a-1

(Tonnage figures represent thousands of net tons)

Code authority districts.	1920 Net Tons	1920 % of Total	1921 Net Tons	1921 % of Total	1922 Net Tons	1922 % of Total	1923 Net Tons	1923 % of Total	1924 Net Tons	1924 % of Total	1925 Net Tons	1925 % of Total	1926 Net Tons	1926 % of Total	1927 Net Tons	1927 % of Total
DIVISION NO. 1																
Eastern Sub Division:																
Central Pennsylvania 1/	22	0.10	30	0.13	81	0.44	31	0.11	2	0.01	1	- -	2	0.01	11	0.03
Somerset 2/																
Maryland - Upper Potomac 3/	22	0.10	5	0.02	1	- -	1	- -	5	0.02	4	0.02	3	0.01	- -	- -
Total Eastern Division	44	0.20	35	0.15	82	0.44	32	0.11	7	0.03	5	0.02	5	0.02	11	0.03
Western Pennsylvania Sub Division 4/	7,248	32.37	6,631	29.65	5,210	28.04	9,529	31.93	4,280	18.63	2,479	9.42	3,930	13.96	3,597	10.95
Ohio Sub Division:																
Ohio - all	7,607	33.97	5,538	24.76	3,386	18.22	5,953	19.95	3,999	17.40	1,450	5.51	1,412	5.02	345	1.05
Panhandle of West Virginia ## 5/	(a)		(a)		(a)		(a)		(a)		761	2.89	327	1.16	728	2.22
Michigan - all	- -		- -		- -		- -		- -		- -		- -		- -	
Total Ohio Sub Division	7,607	33.97	5,538	24.76	3,386	18.22	5,953	19.95	3,999	17.40	2,211	8.40	1,739	6.18	1,073	3.27
Northern West Virginia 6/	1,784		1,015	4.54	1,370	7.38	3,169	10.62	1,402	6.10	1,623	6.16	2,142	7.60	3,877	11.80
Southern - Low Volatile 7/	1,668	7.45	2,639	11.80	1,937	10.43	2,894	9.70	2,984	12.99	3,692	14.02	4,117	14.62	5,410	16.47
Southern - High Volatile 8/	4,540	20.28	6,506	29.10	6,593	35.49	8,263	27.69	10,303	44.84	16,321	61.98	16,226	57.62	18,884	57.48
Western Kentucky 9/	- -		- -		- -		- -		- -		- -		- -		- -	
TOTAL CARGO COAL	22,391	100.00	22,364	100.00	18,578	100.00	29,840	100.00	22,975	100.00	26,331	100.00	28,159	100.00	32,852	100.00
TOTAL VESSEL FUEL									1,348		1,532		1,581		1,451	

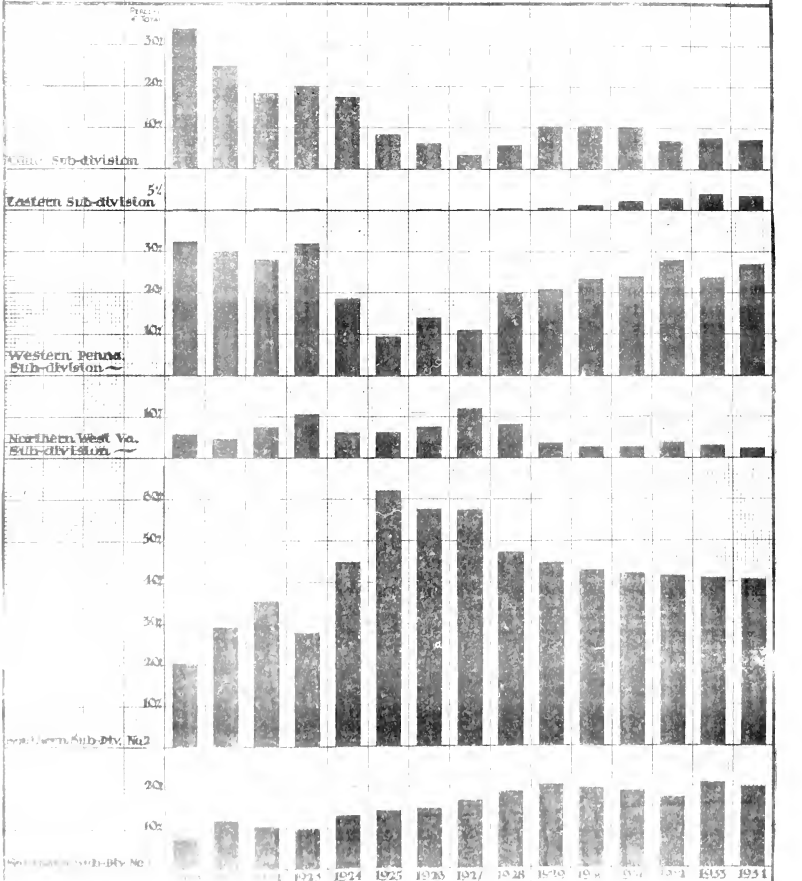
Code authority districts.	1928 Net Tons	1928 % of Total	1929 Net Tons	1929 % of Total	1930 Net Tons	1930 % of Total	1931 Net Tons	1931 % of Total	1932 Net Tons	1932 % of Total	1933 Net Tons	1933 % of Total	1934 Net Tons	1934 % of Total
DIVISION NO. 1														
Eastern Sub Division:														
Central Pennsylvania 1/	87	0.26	171	0.45	441	1.20	610	2.01	705	2.87	1,208	3.85	1,192	3.42
Somerset 2/	- -		- -		- -		- -		3	0.01	3	0.01	- -	- -
Maryland - Upper Potomac 3/	3	0.01	3	0.01	3	0.01	29	0.09	10	0.04	18	0.06	14	0.04
Total Eastern Division	90	0.27	174	0.46	444	1.21	639	2.10	718	2.92	1,229	3.92	1,206	3.46
Western Pennsylvania Sub Division 4/	6,623	19.83	7,874	20.76	8,573	23.27	7,272	23.91	6,857	27.92	7,425	23.68	9,396	26.95
Ohio Sub Division:														
Ohio - all	1,052	3.15	3,199	8.43	3,363	9.13	2,978	9.79	1,411	5.75	2,097	6.69	2,141	6.14
Panhandle of West Virginia ## 5/	895	2.68	706	1.86	447	1.21	125	0.41	283	1.15	278	0.89	350	1.00
Michigan - all	- -		- -		- -		- -		- -		- -		- -	- -
Total Ohio Sub Division	1,947	5.83	3,905	10.29	3,810	10.34	3,103	10.20	1,694	6.90	2,375	7.58	2,491	7.14
Northern West Virginia 6/	2,705	8.10	1,379	3.64	1,035	2.81	866	2.85	906	3.69	941	3.00	817	2.34
Southern - Low Volatile 7/	6,209	18.59	7,655	20.18	7,181	19.49	5,727	18.83	4,201	17.10	6,542	20.87	6,863	19.68
Southern - High Volatile 8/	15,828	47.38	16,946	44.67	15,797	42.88	12,808	42.11	10,187	41.47	12,839	40.95	14,097	40.43
Western Kentucky 9/	- -		- -		- -		- -		- -		- -		- -	- -
TOTAL CARGO COAL	33,402	100.00	37,933	100.00	36,840	100.00	30,415	100.00	24,563	100.00	31,351	100.00	34,870	100.00
TOTAL VESSEL FUEL	1,364		1,451		1,321		972		610		982		1,102	

SOURCE: United States Bureau of Mines.

a-1 Courtesy of Ohio Bureau of Coal Statistics for years 1920 to 1923 inclusive. Courtesy of Ore and Coal Exchange for years 1924 to 1934 inclusive.
\# Includes Lake coal originating on P.R.R. and P. & W. Va. in Panhandle of West Virginia. ## Includes only Lake coal originating on B. & O. in Panhandle of West Virginia. (a) Moundsville District on B. & O. included in Northern West Virginia.
1/ Includes U. S. Coal Commission Fields No. 6 Blossburg; 7 Broad Top; 9abc Central Pennsylvania.
2/ Includes U. S. Coal Commission Field No. 8 Somerset.
3/ Includes U. S. Coal Commission Fields No. 10, Maryland-Potomac (or Maryland plus Grant, Mineral and Tucker Counties, West Virginia).
4/ Includes U. S. Coal Commission Fields No. 1 Pittsburgh; 2 Connellsville; 3 Westmoreland-Ligonier; 4ab Freeport; 5 Butler-Mercer.
5/ Includes Brooke, Hancock, Marshall and Ohio Counties in West Virginia.
6/ Includes Monongalia, Preston, Marion, Harrison, Taylor, Lewis, Barbour, Gilmer, Upshur, Randolph, Braxton, and Webster Counties, and Nichols County on Baltimore and Ohio Railroad (or U. S. Coal Commission Fields No. 11 Fairmont and No. 24abc, except Clay and Kanawha Counties).
7/ Includes U. S. Coal Commission Fields No. 17 Tug River; 18 Pocahontas; 19 Winding Gulf; 20 New River; 27 Virginia Anthracite; 28 Richmond Basin; 92 North Carolina.
8/ Includes mines in Clay and Kanawha Counties in U. S. Coal Commission Fields No. 24abc; 13 Mason County; 14 Putnam County; 15 Kenova; 16 Thacker; 21 Kanawha; 22 Coal River; 23 Logan; 25 Southwestern Virginia; 26 Clinch Valley; 36 Northeastern Kentucky; 37 Hazard; 38 Harlan; 39 Southern Appalachian 40 Jellico; 43 Fentress; and northern part of No. 42, namely mines in Anderson, Morgan, and Roane Counties and Cumberland County except on the Nashville, Chattanooga and St. Louis Railroad. (This includes all high volatile districts of Southern West Virginia, Eastern Kentucky, Virginia, and Northern Tennessee.).
9/ Includes U. S. Coal Commission Field No. 41 Western Kentucky.

Prepared by Bituminous Coal Unit
Division of Review, N.R.A.
Under Direction of F. E. Berquist

Movement of Bituminous Coal to Lake Erie Ports for Transhipment: Relative Importance of N.R.A. Sub-Divisions — 1920 — 1934



Toledo is the main port for lake cargo coal, handling 52 percent of the tonnage in 1925, 49 percent in 1927, and between 40 and 45 percent for the other years shown. This port is used mostly by the southern fields. The rest of the tonnage is dumped at various ports between Toledo and Buffalo, the most important being Sandusky.

Nearly one-third of the coal transhipped by vessel from Lake Erie ports goes to ports on Lake Michigan, while another fourth goes to Lake Superior ports. The proportion for the latter has decreased sharply since 1927, a condition not caused by a declining market but because the Lake Superior absolute tonnage changed little while the general lake movement was increasing. Proportionate increases are recorded for tonnage moving to the Welland Canal and beyond, to Lake Erie ports, and to the St. Clair River, Lake St. Clair and Detroit River ports. The movement to Lake Huron and Georgian Bay ports has changed little, while the tonnage to Sault Ste. Marie and River ports has declined. Eighty-two percent of the lake coal was destined finally to domestic points in 1934, the rest going to Canada.

The distribution of bituminous coal from the Lakes is traced for 1929 in a study of the Bureau of Mines. (*) This study, while only separating the Lake Superior ports, furnishes a picture of the movement of coal from the Lakes. The major part of the Lake Michigan coal is consumed in Wisconsin and Illinois. Coal from Lake Superior docks is used largely in Minnesota, though large amounts are shipped to Wisconsin, North Dakota and South Dakota, and a heavy tonnage is used as railroad fuel. This Lake coal, in competition with all-rail coal from Illinois, Indiana, Western Kentucky, and the Appalachians, makes the Northwest one of the complicated market areas. Other large shipments from the Lakes go to Michigan, Ohio and New York, but a smaller part of these movements is again reshipped by rail. The total lake cargo coal going to Canada in 1929 amounted to 6 million tons.

Shipments Westbound: Westbound tonnage from the Appalachians includes all shipments destined to points west of Pittsburgh, Erie and Buffalo to the Rocky Mountain States; and all north of the Ohio River. The far western states include Kansas, Nebraska, South Dakota and North Dakota. All coal from Illinois, Indiana and Western Kentucky moving into this market territory is part of the total.

In a comparison restricted to Northern and Southern Appalachian fields, it is seen that the latter increased their proportion in the westbound movement until around 1927, after which there is little change. The Northern mining areas, in the aggregate, suffered decreases until 1924, and then had little change.

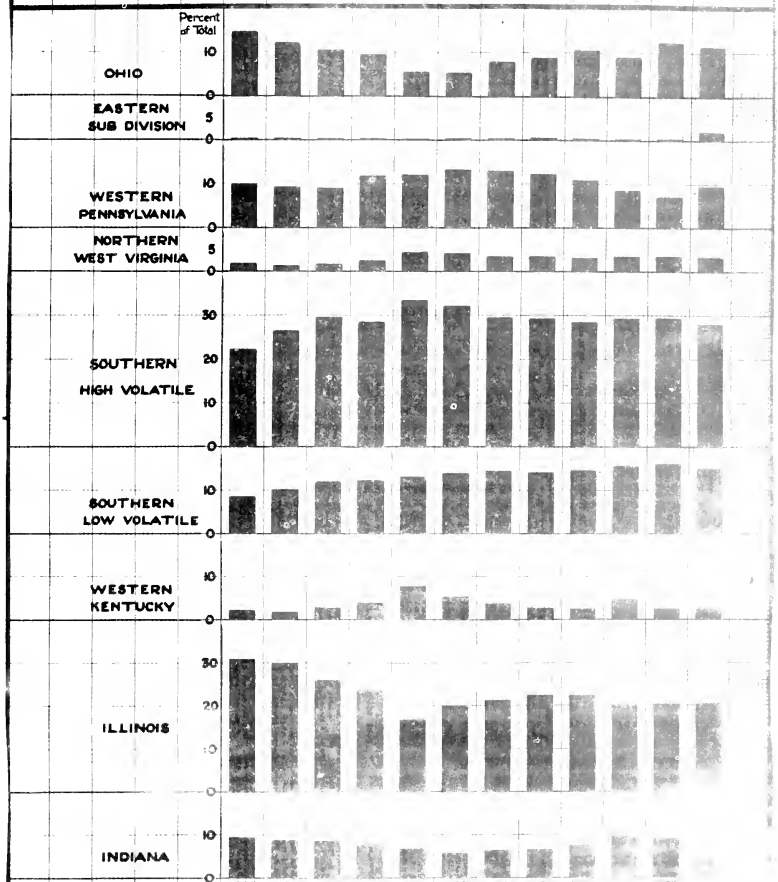
A different result appears when Division II is included in the comparisons. From 1923 to 1934, the proportions of the Northern Appalachian fields change little, ranging between 21 and 25 percent. The Southern Appalachian areas, however, increase until 1927, and then follow a level ranging between 43 and 46 percent. Illinois and Indiana, particularly the former, decrease as the Southern Appalachian increase,

(*) M. C. D. No. 3, Supp.

making it appear that the loss of Illinois was the gain of the Southern Appalachians.

(The reader will observe that there is a statistical appendix to Chapter III.)

Shipments of Westbound Bituminous Coal from the Appalachians and from Illinois, Indiana, and Western Kentucky: Relative Importance of N.R.A. Subdivisions — 1920 – 1934



9837 Source: U.S. Bureau of Mines

D.Ex. 29b

SHIPMENTS OF WESTBOUND COAL FROM THE APPLACHIANS AND FROM ILLINOIS, INDIANA, AND WESTERN KENTUCKY. a-1

(Tonnage figures represent thousands of net tons)

Code authority districts	1920 Net Tons	1920 % of Total	1921 Net Tons	1921 % of Total	1922 Net Tons	1922 % of Total	1923 Net Tons	1923 % of Total	1924 Net Tons	1924 % of Total
DIVISION NO. 1										
Eastern Sub Division:										
Central Pennsylvania 1/	175	0.24	100	0.17	268	0.39	198	0.13	152	0.11
Somerset 2/	310	0.42	97	0.16	134	0.20	170	0.11	143	0.10
Maryland-Upper Potomac 3/	90	0.12	39	0.07	36	0.05	64	0.04	42	0.03
Total Eastern Sub Division	575	0.78	236	0.40	438	0.64	432	0.28	337	0.24
Western Pennsylvania Sub Division # 4/	11.629	15.53	9,430	16.10	10,022	14.57	15,474	9.87	13,437	9.36
Ohio Sub Division:										
Ohio - all	29,058	39.56	19,232	32.82	16,419	23.86	22,970	14.66	17,399	12.12
Panhandle of West Virginia ## 5/	- -		- -		- -		- -		- -	
Michigan - all	- -		- -		- -		- -		- -	
Total Ohio Sub Division	29,058	39.56	19,232	32.82	16.419	23.86	22,970	14.66	17,399	12.12
Northern West Virginia 6/	1,965	2.68	1,127	1.92	1,900	2.62	2,903	1.85	1,875	1.31
Southern - Low Volatile 7/	7,565	10.30	7,331	12.51	10,818	15.72	13,535	8.64	14,460	10.07
Southern - High Volatile 8/	22,657	30.85	21,239	36.25	29,303	42.59	34,867	22.25	37,985	26.46
Western Kentucky 9/	No	data	No	data	No	data	3,569	2.28	2,528	1.76
Illinois	"	"	"	"	"	"	48,401	30.89	42,851	29.85
Indiana	"	"	"	"	"	"	14,549	9.28	12,680	8.83
GRAND TOTAL	73,449	100.00	58,595	100.00	68,800	100.00	156,700	100.00	143,552	100.00

Code authority districts	1925 Net Tons	1925 % of Total	1926 Net Tons	1926 % of Total	1927 Net Tons	1927 % of Total	1928 Net Tons	1928 % of Total	1929 Net Tons	1929 % of Total
DIVISION NO. 1										
Eastern Sub Division:										
Central Pennsylvania 1/	189	0.12	191	0.11	196	0.12	255	0.16	178	0.11
Somerset 2/	149	0.10	195	0.12	152	0.10	184	0.12	239	0.15
Maryland-Upper Potomac 3/	40	0.03	52	0.03	45	0.03	42	0.03	62	0.03
Total Eastern Sub Division	378	0.25	438	0.26	393	0.25	482	0.31	479	0.29
Western Pennsylvania Sub Division # 4/	13,781	9.04	20,077	11.94	19,224	12.03	20,343	13.21	21,468	13.03
Ohio Sub Division:										
Ohio - all	16,172	10.60	16,100	9.58	8,965	5.61	8,205	5.33	12,912	7.84
Panhandle of West Virginia ## 5/	- -		- -		- -		- -		- -	
Michigan - all	- -		- -		- -		- -		- -	
Total Ohio Sub Division	16,172	10.60	16,100	9.58	8,965	5.61	8,205	5.33	12,912	7.84
Northern West Virginia 6/	2,487	1.63	4,255	2.53	7,027	4.40	6,347	4.12	5,731	3.48
Southern - Low Volatile 7/	18,145	11.89	20,489	12.19	20,707	12.96	21,330	13.85	23,690	14.38
Southern - High Volatile 8/	45,179	29.61	47,865	28.48	53,436	33.44	49,375	32.06	48,877	29.66
Western Kentucky 9/	4,260	2.79	6,452	3.86	12,282	7.69	8,110	5.26	6,175	3.74
Illinois	39,307	25.77	39,458	23.47	26,863	16.81	30,861	20.03	34,863	21.16
Indiana	12,846	8.42	12,927	7.69	10,895	6.81	8,979	5.83	10,589	6.42
GRAND TOTAL	152,555	100.00	168,091	100.00	159,792	100.00	154,032	100.00	164,784	100.00

Code authority districts	1930 Net Tons	1930 % of Total	1931 Net Tons	1931 % of Total	1932 Net Tons	1932 % of Total	1933 Net Tons	1933 % of Total	1934 Net Tons	1934 % of Total
DIVISION NO. 1										
Eastern Sub Division:										
Central Pennsylvania 1/	172	0.13	133	0.13	107	0.12	114	0.13	1,379	1.37
Somerset 2/	360	0.26	279	0.26	135	0.15	163	0.18	198	0.20
Maryland-Upper Potomac 3/	53	0.04	51	0.05	37	0.04	65	0.09	199	0.20
Total Eastern Sub Division	585	0.43	463	0.44	279	0.31	362	0.40	1,776	1.77
Western Pennsylvania Sub Division # 4/	16,775	12.25	11,557	10.67	7,593	8.53	6,363	7.02	9,554	9.52
Ohio Sub Division:										
Ohio - all	12,092	8.82	10,771	10.13	7,823	8.79	10,965	12.10	11,321	11.28
Panhandle of West Virginia ## 5/	- -		357	0.34	162	0.18	136	0.15	158	0.16
Michigan - all	- -		- -		- -		- -		- -	- -
Total Ohio Sub Division	12,092	8.82	11,128	10.47	7,985	8.97	11,101	12.25	11,479	11.44
Northern West Virginia 6/	4,779	3.49	3,242	3.05	2,945	3.31	3,200	3.53	3,258	3.25
Southern - Low Volatile 7/	19,193	14.01	15,457	14.54	13,743	15.45	14,490	16.00	14,916	14.87
Southern - High Volatile 8/	40,228	29.37	30,210	28.43	25,946	29.17	26,562	29.32	28,031	27.95
Western Kentucky 9/	3,791	2.76	2,731	2.57	4,202	4.73	2,227	2.46	2,208	2.20
Illinois	30,533	22.29	23,658	22.26	17,782	19.99	18,190	20.08	20,209	20.15
Indiana	9,014	6.58	7,831	7.37	8,490	9.54	8,098	8.94	8,877	8.85
GRAND TOTAL	136,990	100.00	106,277	100.00	88,965	100.00	90,595	100.00	100,308	100.00

SOURCE: United States Bureau of Mines.

(a-1) Data for Ohio and Crescent by courtesy of Ohio Bureau of Coal Statistics. Data for Illinois, Indiana, and Western Kentucky by courtesy of Illinois Freight Association. (#) Includes coal originating on P.R.R. and P. & W. Va. in Panhandle of West Virginia. (##) Includes only coal originating on B. & O. in Panhandle of West Virginia.

1/ Includes U. S. Coal Commission Fields No. 6 Blossburg; 7 Broad Top; 9abc Central Pennsylvania.

2/ Includes U. S. Coal Commission Field No. 8 Somerset.

3/ Includes U. S. Coal Commission Fields No. 10, Maryland-Potomac (or Maryland plus Grant, Mineral and Tucker Counties, West Virginia).

4/ Includes U. S. Coal Commission Fields No. 1 Pittsburgh; 2 Connellsville; 3 Westmoreland-Ligonier; 4ab Freeport; 5 Butler-Mercer.

5/ Includes Brooke, Hancock, Marshall and Ohio Counties in West Virginia.

6/ Includes Monongalia, Preston, Marion, Harrison, Taylor, Lewis, Barbour, Gilmer, Upshur, Randolph, Braxton, and Webster Counties, and Nichols County on Baltimore and Ohio Railroad (or U. S. Coal Commission Fields No. 11 Fairmont and No. 24abc, except Clay and Kanawha Counties).

7/ Includes U. S. Coal Commission Fields No. 17 Tug River; 18 Pocahontas; 19 Winding Gulf; 20 New River; 27 Virginia Anthracite; 28 Richmond Basin; 92 North Carolina.

8/ Includes mines in Clay and Kanawha Counties in U. S. Coal Commission Fields No. 24abc; 13 Mason County; 14 Putnam County; 15 Kenova; 16 Thacker; 21 Kanawha; 22 Coal River; 23 Logan; 25 Southwestern Virginia; 26 Clinch Valley; 36 Northeastern Kentucky; 37 Hazard; 38 Harlan; 39 Southern Applachian 40 Jellico; 43 Fentress; and northern part of No. 42, namely mines in Anderson, Morgan, and Roane Counties and Cumberland County except on the Nashville, Chattanooga and St. Louis Railroad. (This includes all high volatile districts of Southern West Virginia, Eastern Kentucky, Virginia, and Northern Tennessee.).

9/ Includes U. S. Coal Commission Field No. 41 Western Kentucky.

Prepared by Bituminous Coal Unit
Division of Review, N.R.A.
Under Direction of F. E. Berquist

CHAPTER IV. (*)

LABOR - GENERAL AND PRE-CODE

SECTION A.

1. Collective Bargaining - Wage Negotiations and Industrial Disputes.

Introduction: The Bituminous Coal Code sought to stabilize the bituminous coal mining industry by effecting a stabilization of wages adjusted between competing districts and by fixing and stabilizing prices. Such stabilization of the industry could not be achieved without recourse to collective bargaining. It is impossible to comprehend the fundamental problems which the N.R.A. faced in the formulation and administration of the Code without giving considerable attention to the tradition and historical background of collective bargaining in the coal industry. Unlike some other industries, collective bargaining in the coal industry did not arise de novo with the passage of the National Industrial Recovery Act. However, by 1933 collective bargaining in the coal industry had almost disappeared, despite the fact that such bargaining on an extensive scale harked back to the year 1896. Although the N.R.A. did not initiate collective bargaining in the industry, it revived, extended and gave new emphasis to the procedure. In order to facilitate the wide acceptance of collective bargaining, the N.R.A. did not make radical innovations, but rather took advantage of the past procedure. It is therefore, necessary to consider the conflicts and struggles for collective bargaining in some detail if the problem under the Code is to be understood. The principle of collective bargaining as set forth in Section 7(a) of the National Industrial Recovery Act and in paragraph (a) of the Bituminous Coal Code(**) is of basic significance for the bituminous coal mining industry. The interrelationship between prices and wage costs plus the high proportion which mine labor cost represents of total production cost require stabilized wage levels. Moreover, since a large amount of coal is sold on contracts extending for one year or more, it becomes absolutely necessary that labor costs, as expressed in wage rates, be known in advance. The collective bargaining principle of the N.I.R.A. was, therefore, of peculiar significance for the bituminous coal industry. Perhaps more than any other industry, the bituminous coal industry had struggled to arrive at an understanding between employers and employees which should apply over wide geographical areas.

(*) Prepared by Lewis Lorwin.

(**) Employees shall have the right to organize and bargain collectively through representatives of their own choosing, and shall be free from the interference, restraint, or coercion of employees of labor or their agents, in the designation of such representatives or in self-organization or in other concerted activities for the purpose of collective bargaining or other mutual aid or protection; (2) no employee and no one seeking employment shall be required as a condition of employment to join any company union or to refrain from joining, organizing, or assisting a labor organization of his own choosing; and (3) employers shall comply with the maximum hours of labor, minimum rates of pay, and other conditions of employment approved or prescribed by the President.

The long history of efforts to establish contractual relations between operators and mine workers based upon agreements by collective action regarding wages, hours, and working conditions is fraught with violence and bloodshed to secure union recognition, intense and often unfair competitive conditions, introduction of new producing fields, mechanization and rearrangement of the competitive pattern. These collective bargaining agreements are predicated upon the existence of organizations of operators and mine workers and upon the willingness of the employer to surrender some of the advantage held by him when making individual bargains with each employee. Collective bargaining may also be attributed to the operator's desire that his competitors pay a wage scale comparable to his own so as to assure fair price competition. The transcript of the Bituminous Coal Code Hearings of August 9-12, 1933 contain many references to the competitive relationships arising out of wage differentials as established by wage agreements dating back a great number of years. In addition, by the time the Bituminous Coal Code was adopted both industry and the N.R.A. recognized the need of union organization and collective bargaining in order to secure stabilization of wages. (*)

A proper understanding of the problems relating to collective bargaining as they arose during the period when the Bituminous Coal Code was formulated as well as when the Code operated, requires a rather detailed description and exposition of the negotiations from the earliest years forward. Closely related to and, indeed, a part of the collective bargaining procedure are the numerous stoppages in mining operations when negotiations have failed or when existing wage agreements have been violated. These strikes and lockouts affect widespread areas because the industrial disputes arise out of collective bargaining negotiations which are interstate in character. Because these industrial disputes interfere with the flow of interstate commerce of a basic commodity essential to many industries and to a large number of domestic consumers and also because these disputes have often been attended by destruction of life and property, they have necessitated governmental intervention upon many occasions and have made a deep impression on public thinking. The N.R.A. recognized that peace in the industry or continuity of operation was essential to attaining its objectives of increased purchasing power and increased employment. Thus, even before the Bituminous Coal Code went into effect the N.R.A. cooperated in every way with the United Mine Workers and the captive mine operators to settle the strike in Western Pennsylvania (August and September, 1933). Similarly, the N.R.A. established Divisional Coal Labor Boards and a National Coal Labor Board so that labor disputes might be settled expeditiously without resulting in stoppage of work. In a sense the N.R.A. sought to re-enact the role of the U.S. Fuel Administration when the emergency war time demand required uninterrupted mining activity.

Only by studying the traditional militancy of the mine workers and the constant resistance of the operators can one understand and appreciate how remarkable was the scope and degree of collective bargaining effected under the influence of the N.I.R.A. and the Bituminous Coal Code. When one recalls the breakdown of union organization and the depths to which collective bargaining had fallen after 1927, the revival of collective

(*) See discussion of wages, hours of work and collective bargaining under the Code in the following section. Wage differentials are treated in a separate section.

bargaining in the industry with the passage of the N.I.R.A. stands out even more as a great accomplishment.

One of the serious difficulties in the bituminous coal industry regarding collective bargaining became increasingly apparent after 1919 with the rising importance of the coal producing areas south of the Ohio River. The traditional basic wage negotiating unit for several decades was the Central Competitive Field. Collective bargaining for this area - Illinois, Indiana, Ohio and Western Pennsylvania - was premised upon an East vs. West competition. This competitive pattern had shifted to North vs. South, but labor insisted, in opposition to union operators, in maintaining the outmoded relationship while non-union southern competition increased. The expiration of the Jacksonville Agreement (March 31, 1927) found the union greatly weakened and in subsequent years the disintegration was more complete. Not until the advent of the N.R.A. was the new competitive pattern formally recognized in the Appalachian Wage Agreement of September 21, 1933. Thus, the N.R.A. served as the vehicle whereby the collective bargaining structure could be rehabilitated and modernized to meet the new competitive situation.

1861 - 1898.

Inasmuch as collective bargaining requires organized action, it is necessary to recount briefly the organization of the mine workers. The period 1861 to 1890 was featured by a great number of local and national miners' unions, all of which were poorly organized and short-lived. The areas in which this intermittent organization took place were primarily Illinois, Indiana, Ohio and Western Pennsylvania. The mine workers attempted to hold joint wage conferences with the operators, but were generally unsuccessful because of internecine rivalries and poor operator representation. The first joint conference for the above named areas was held in 1886. The conference idea was of short duration and by 1889 it had been abandoned.

The failure of the joint conference of 1889 and the subsequent unsuccessful local strikes emphasized the need for collective bargaining in dealing with the chaotic competitive conditions existing in the industry. A joint convention of the National Progressive Union and the National Trades Assembly No. 135 (Knights of Labor) on January 23, 1890 laid the foundation for uniting the two organizations under the name of the United Mine Workers of America. The union was of the industrial type including all workers in and around the mines.

The United Mine Workers sought to reestablish the Interstate Joint Conference in 1891 but were unsuccessful. From 1891 to 1897 only district bargaining could be effected. The miners' convention of 1897 decided to call a general suspension of work beginning July 4. The strike was successful in that it was settled by calling an Interstate Joint Conference of the entire Central Competitive Field. (*)

(*)

State	Basing Point
Ohio	Hocking Valley
Indiana	Indiana and Indiana Brazil Block
Western Pennsylvania	Thin Vein Mines
Illinois	Danville, district

The Central Competitive Field became the unit in which the agreement was negotiated that substantially fixed the basic wages, the hours, and the method of payment for the agreement period throughout the bituminous coal industry.

1898 to 1916

Central Competitive Field: The year 1898 marks the real beginning of the Central Competitive Field agreements. The joint conference of 1898 laid the foundation of an institution for collective bargaining in the Central Competitive Field which functioned for almost thirty years. It brought about uniformity in day rates and working hours and standardized the screens use it to obtain lump coal. (*)

Yearly agreements were successfully made in the Central Competitive Field from 1898 to 1903 with increasing advantage to miners in wages and working conditions. In 1904, a two year agreement was made at a slightly reduced wage scale because of the moderate industrial depression. The 1906 conference broke up over the question of the wage scale and the joint conference was unable to agree upon a new scale. The miners wished to recover the loss sustained in 1904 and an advance over the 1903 scale, while the operators were only willing to renew the 1904 wage scale. The deadlock was broken by the operators agreeing to pay the 1903 scale, but contracts were negotiated locally in each district. In 1908 Illinois refused to be a party to the joint conference and formulated a separate scale. It is interesting to note, however, that the Illinois agreement was made after the agreement of the joint conference and was based upon the latter contract. The agreement made by Indiana, Ohio, and Western Pennsylvania was based on the 1907 scale established by various states and districts and remained in effect until 1910.

At the 1910 Joint Conference, the miners asked for a 10 cent increase per ton for tonnage rates. Illinois again refused to join the conference. The failure of the conference to agree resulted in an adjournment without setting a rate. Each state or district made a separate settlement with the result that a 5.5 per cent increase was obtained in most instances.

In 1912 all the operators in the Central Competitive Field entered the joint conference and an increase was granted to the mine workers. (**)

(*) Uniform day rate for inside skilled labor was $1.90 throughout Central Competitive Field.

(**) Interstate Joint Agreement, Indiana poles, April 25, 1912 between Indiana, Illinois, Ohio and Western Pennsylvania and United Mine Workers of Americ

Pickmining (Screened lump) 5 cents a ton increase	Pickmining (Run of mine) 3 cents a ton increase
Western Pennsylvania (thin vein)	Illinois
Ohio - Hocking Valley	Indiana - Bituminous
Indiana - Block and Bituminous	
Machine Mining (Screened lump) 4 cents a ton increase	**Machine Mining (Run of mine) 3 cents a ton increase**
Western Pennsylvania (thin vein)	Illinois
Ohio - Hocking Valley	Indiana - Bituminous
Indiana - Block and Bituminous	

The 1914 Joint Conference gave rise to considerable controversy over the wage scale for mine run coal both pick and machine mined. Failure to reach an agreement resulted in adjournment and individual district bargaining.

Southwestern Interstate Field: The United Mine Workers in 1898 organized a district in Arkansas and the Indian Territory (District 21). At the same time District 14 (Kansas) and District 25 (Missouri) were organized. In 1903 Texas was organized and joined to District 21. This latter state, however, is not considered a part of the Southwestern Interstate Field.

In 1900 Kansas and Missouri held a joint wage conference and negotiated a wage scale. The operators in Arkansas and in the Indian Territory refused to enter into the negotiations. (*) The large operators were willing to pay 50 cents per ton, which was 5 cents lower than the union demand, and also wished a 10-hour day as against the union request for an 8-hour day. Failure to come to an agreement was followed by a disruption of mining operations in Arkansas and in the Indian Territory which lasted until 1902. Considerable violence accompanied the industrial dispute. The disturbances were ended in 1902 when the president of District 21 met with the large operators in St. Louis and reached an agreement which provided for an 8-hour day, semi-monthly pay days, and a 55 cent tonnage rate.

The operators in Missouri and Kansas met in Kansas City, Missouri, on June 19, 1903 for the purpose of organizing an association. This meeting agreed to adjourn to a later date and to invite operators from Arkansas and the Indian Territory. At the next meeting on July 9, 1903, in Pittsburg, Kansas, 71 operators from 4 states representing 80 per cent of the coal output and 50 per cent of the operators were present. The Southwestern Interstate Coal Operators' Association, which was formed at this meeting, entered into a joint conference with the United Mine Workers. An agreement was signed applying to Districts 14, 21 and 25 and effective from September 1, 1903 to August 31, 1904. This agreement was the beginning of a collective bargaining procedure, patterned after that of the Central Competitive Field, which continued with slight interruptions until 1924. (**)

In 1906, the Southwest asked admittance into the Central Competitive Field, but its request was denied. (***) Wage conferences were arranged and agreements were made periodically after 1903. Representatives of Districts 14, 21 and 25 of the U.M.W.A. and the operators biennially formulated wage scales and agreed on conditions of labor in 1904, 1906, etc.

(*) Ryan, Frederick L., "The Development of Coal Operators' Associations in the Southwest", Southwestern Social Science Quarterly, September, 1933.
(**) Ibid, supra.
(***) Coal Age, October 29, 1925, p. 597.

Collective bargaining in the Southwest was complicated by the dominance of four large producers. An additional complicating factor was the existence of some 20 operators known as "independents", who refused to join the operators' association, but paid the union scale and maintained union operating conditions. These latter operators embarrassed the United Mine Workers' position when joint conferences and negotiations were taking place. The operators' association, in 1910, in order to effect a stronger organization sought to bring all operators into the association. In the spring of 1910, the United Mine Workers asked for a 10 cents per ton wage increase. The operators refused to accede to the request and stoppage of work ensued. The operators' association then proposed a program for the operators which stated that:

1. Only non-union labor be employed.
2. Large operators should control the market and that smaller operators should receive a bonus when their share of the market was not secured.

The industrial dispute continued for 5 months. When the dispute was settled the operators agreed to grant a 3 cent per ton wage increase and to maintain union conditions.

Slight attention has been given to the industrial disputes during the period 1898 to 1916. This period is treated for purposes of background information. Wage negotiations during this period are considered significant since they served as precedents, but labor disputes during this period did not have the same significance. Most stoppages of work during these years grew out of the biennial wage contract negotiations and were suspensions awaiting a new contract rather than an actual strike. For example, the year 1912, notwithstanding a general suspension in the union fields which lasted about 35 days, was an exceptionally good year for the soft coal industry and the suspension did not indicate fundamental labor unrest.

The suspensions which occurred in the even years when wage contracts expired from 1900 to 1912 were all similar in character. The usual procedure in these suspensions has been described in the following language:

> "They (the suspensions) began with the formulation of demands in the biennial convention of the union, astutely timed to fall in "even" years - years marked by national elections. This was followed in regular order by resistance of the operators to an increase, apprehension of buyers over interruption of supply, active buying to accumulate reserve stocks, advance in price, then idleness at the mines for one, two, three months or longer. The early weeks of a suspension were frequently marked by a slackening of demand; then as consumers began to exhaust their stocks the price again rose, inducing the importation of coal from the outside. Pressure of consumers to bring about a settlement appeared; sometimes it was exerted directly, where the railroads owned mines to supply locomotive fuel; sometimes it was

exerted indirectly, through the usual channels of distribution. The union operator was moved to grant the miners' demand - first, by the spectacle of other coals, sometimes from a union district that had made an early settlement with the union, invading his own territory, and second, by the desire to participate in the active market and obtain the attractive prices created by the temporary shortage." (*)

Although the consumer bore the burden of increased prices attending the suspension, the price rise was not great. Even in the industrial dispute of 1910 when union miners in five states were out for nearly five months, spot delivery prices rarely rose above 25 to 50 cents per ton.

The decline in business activity, beginning in the last half of 1913, was not immediately reflected in the bituminous coal industry. By April, 1914, however, conditions in the coal industry were unsound. Twenty-five per cent of the tonnage in Illinois was in bankruptcy, and the southwestern interstate region was in little better condition. (**) In Ohio, a prolonged and serious labor dispute beginning early in 1914 kept the mines in much of the state shut down well into the year 1915. The dispute was waged over the method of establishing wage rates to conform with the Green Anti-Screen Law which required that the miners in that state be paid for all coal mined rather than only for the coal passing over screens. (***) The adjustment finally agreed upon resulted in a reduction of wage rates in that field.

1916 - 1924.

The Central Competitive Field wage contract of 1916 for the two year period, April 1, 1916 to March 31, 1918, reflected the improvements in the coal industry arising from the European War. The New York Agreement, as it is generally termed, provided for an increase of 3 cents per ton to tonnage workers and a 5 per cent increase to day men. It also provided for the run of mine system of payment for the entire Central Competitive Field. (****)

(*) Tryon, F. G., "The Effect of Competitive Conditions on Labor Relations in Coal Mining". The Annals of The American Academy of Political and Social Science, Vol. CXI; No. 200, January, 1924, p. 88.

(**) Tryon, F. G. op. cit. p. 89

(***) Fisher, Waldo E. and Bezanson, Anne, Wage Rates and Working Time in the Bituminous Coal Industry 1912-1922, University of Pennsylvania Press, 1932, p. 55

(****) Previous to this time the screened method of payment was in effect in this area, except where state legislation as in Illinois provided for the run of mine basis. The miners had been trying for many years to have the wage scale based on the weight of coal as it came from the mine. They claimed that the payment of wage rates based on the amount of coal which would pass over screens of a certain mesh and area was subject to abuse. The area in square feet varied; the size of the mesh was not uniform; spreaders placed on the screens broke up the coal and made a disproportionate amount of fine coal pass through the screens; and the screens were not kept in repair.

However, it soon became apparent, as early as the autumn of 1916, that the increase in wages received by the miners was not equal to the increase in the rapidly rising cost of living. The miners became dissatisfied because wages in other industries were mounting and profits in the coal industry were increasing in excess of those anticipated when the contract was signed while their wage rate remained stationery. Furthermore, non-union employers were voluntarily advancing wages, throwing out of line the wage adjustments in neighboring fields.

In the Southwest, some 16 operators (later joined by Oklahoma and Arkansas operators making over 70 in all) brought their grievances against domination by the large operators before the joint meeting in Kansas City. The miners objected to the automatic penalty clause in their contract which provided for a fine to be deducted from pay when the mine worker was absent from work without cause (strike or walkout). These Oklahoma operators indicated an intention to separate from the Southwestern Interstate Coal Operators' Association. As a result, the Joint Wage Agreement for 1916 - 1918 contained a provision to the effect that its terms were effective only while the operators were members of the Association. Shortly after 1916, Oklahoma withdrew from the Association and organized the Oklahoma Coal Operators' Association. The joint contracts made by this group and the United Mine Workers duplicated the provisions in the agreements for Kansas, Missouri, and Arkansas.

Labor difficulties in Central Pennsylvania and in Northern West Virginia made evident the need for a readjustment before the expiration of the 1916 agreement. There was a considerable increase in the amount of time lost due to strikes and lockouts in the non-union States of Alabama, eastern Kentucky, Tennessee, and Virginia, as well as in the union stronghold of Illinois.

On April 12, 1917, a joint conference for the Central Competitive Field was held in which the operators agreed to an advance of 10 cents per ton for pick and machine mining rates and 60 cents for day men, effective until April 1, 1918. No increase was allowed for yardage and deadwork. Although this joint conference led to a general wage increase, it was only temporarily satisfactory. By the summer of 1917 the miners were again asking for an increase in wages. In August new labor disturbances occurred in Illinois, eastern Kentucky, and Tennessee.

The passage of the Lever Act on August 10, 1917 was significant in its applications to the coal industry. The legislation gave the President power to fix prices, take over and operate plants and maintain control over the production, distribution and consumption of necessities. Even more significant was the creation of the Fuel Administration on August 23, 1917 with Dr. Harry A. Garfield as Chief.

The maladjustment between wages and cost of living led the mine workers to demand an advance of 15 cents per ton for pick and machine men and $1.00 for day men, plus a 20 per cent increase in yardage and deadwork rates. The operators were willing to make new agreements but only on the condition that increased costs should be offset by increased prices.

The joint conference which reconvened in Washington September 25, 1917, at the request of the Fuel Administrator resulted in the "Washington Agreement". This agreement is sometimes called the "Garfield Agreement" and should not be confused with the Garfield Award which was made in December, 1919.

The Washington Agreement was made on October 6 and established a new wage scale effective November 1st. Rates for pick and machine mining were advanced 10 cents per ton; in the Block Coal Field in Indiana the screened coal price advanced 12½ cents per ton; day labor received an increase amounting to $1.40 per day; and yardage and deadwork rates were advanced 15 per cent. The following table shows the increase for November over April of 1917:

	Pick mining (R.O.M.)	
	Apr. 16, 1917	Nov. 1, 1917
	Cents per ton	Cents per ton
Illinois (Danville)	74.0	84.0
Indiana (except Block)	74.0	84.0
Ohio (Hocking Valley)	77.64	87.64
Western Penn. (Thin Vein)	77.64	87.64

	Trackmen (Inside Skilled Labor)	
	Apr. 16, 1917	Nov. 1, 1917
	Dollars per Day	Dollars per Day
Illinois, Indiana, Ohio and Western Penna.	3.60	5.00

	Outside Common Labor	
	Apr. 16, 1917	Nov. 1, 1917
	Dollars per Day	Dollars per Day
Illinois, Indiana	2.96	4.36
Ohio	3.35	4.75
Western Penna.	2.70	4.10

The objectives of the Washington Agreement were set forth in the following language:

> "The following agreement, supplemental to the existing Interstate and District agreements, is entered into with the hope and belief that the advance in wages will result in an increased production of coal and the abolition of local strikes."

Several provisions of the agreement gave rise to later difficulties in labor relations because of differences in interpretation and dissatisfaction. One provision stated that, "Subject to the next Biennial Convention of the United Mine Workers of America, the Mine Workers' representatives agree that the present contract be extended during the continuation of the War, and not to exceed two years from April 1, 1918."

Another provision, known as the "penalty clause", was intended to insure continuity of production during an emergency period. This clause in its final form provided that if mine workers should strike at any time without first bringing their grievances to the Coal Administration for settlement, each striker was to be fined one dollar per day. The employer after collecting these fines by deductions from the pay envelopes, was to pay them over to the Red Cross. Similarly, a lockout by an employer was also subject to a fine of one dollar per day for each man affected. The Washington Agreement also carried a clause stating that it was to become effective, "only if the selling price of coal shall be advanced by the U. S. Government sufficient to cover the increased costs in the different districts affected and will take effect on the first day of the period following the order advancing such increased prices". President Wilson on October 27, 1917, issued an order stating that the "scale of prices prescribed August 21, 1917.... .....is hereby amended by adding the sum of 45 cents to prices so prescribed." The Washington Agreement was officially accepted by the United Mine Workers at their biennial convention in January, 1918.

The details of the Washington Agreement as to wage scale and labor provisions are significant because they represent the first serious attempt of the Federal Government, through the Agency of the U. S. Fuel Administration, to regulate the bituminous coal industry. Although this regulation arose out of a war emergency situation it faced many of the same problems faced by the NRA in a peace time depression emergency. It should be noted also that at the time the Bituminous Coal Code was formulated, wage rates in the few union contracts then extant had fallen to the level of the November, 1917 wage scale.

Stabilization in labor conditions in 1918, while motivated by patriotism, was greatly influenced by the Government through the Fuel Administrator by anticipating and adjusting grievances. In August, however, the miners appealed directly to the Fuel Administration for an increase in wages because of the continued rise in the cost of living. The request was denied on the ground that dealing with wages "in each industry separately is inevitably and constantly to increase the cost of living". They appealed to the President on November 15, but were refused because the Government was "stabilizing wages".

Dissatisfaction with the Washington Agreement was clearly evident among the miners in 1919. This discontent arose out of the contention that a new wage agreement was necessary since the war had ended. Considerable controversy existed over the interpretation of the clause stating that the Washington Agreement shall be in effect for the duration of the war and not to exceed two years from April 1, 1918. Mine labor contended that the war ended on November 11, 1918, whereas the operators held that a state of war legally existed until the Government ratified a treaty of peace. The mine workers argued that the Fuel Administration's control over prices had been relinquished (abolished on January 21, 1919) and that operators were therefore free to raise prices.(*)

(*) As a matter of fact, the U.S. Geological Survey shows that the average realization per ton f.o.b. mine for bituminous coal in 1919 was $2.49 as against $2.58 in 1918. Furthermore the average spot price per ton was lower than the January, 1919 price in each succeeding month until August when strike threats raised the price.

The labor unrest was further displayed by the disturbances within the organization of the United Mine Workers. An insurrection against the international union was led by the officials in District 12 (Illinois). The United Mine Workers Convention of September, 1919 was also the scene of a bitter struggle regarding the seating of a delegate, Alexander Howat, who had previously been expelled from the presidency of District 14 (Kansas).

The rebellion among the miners found expression in their demands at the convention. These demands were:

1. A 60 per cent increase in tonnage and yardage rates and for day men.

2. A 6-hour day and a five day week.(*).

3. Time and one-half for overtime and double time for Sundays and holidays.

4. Abolition of the "penalty clause".

5. No sectional settlements to be allowed.

6. All new contracts in districts should expire on the same date.

7. District agreements should be retroactive and effective from date of the interstate contract.

The operators based their opposition to the mine workers' demands upon the following arguments:

1. Production costs were already excessive and a 60 per cent increase in wage rates would double these costs.

2. A decrease in working time would cut production and further increase costs.

3. Strike threats were being used as a weapon to force a new agreement. (The operators interpreted the termination date of the Washington Agreement to be April 1, 1920 and refused to grant any increase before that date.)

No agreement could be reached at the reconvened session of the joint conference on October 9, 1919 and on October 15th a strike call was issued to take effect November 1st.

The issuance of the strike call gave rise to governmental interest in the situation. A meeting of the joint scale committees to be held at

(*) This demand for the 30-hour week, although it arose out of insurgent groups in 1919, became a basic argument of the United Mine Workers in the Bituminous Coal Code Hearings in 1933.

the Department of Labor on October 21st was called by Secretary Wilson. This meeting continued for four days. Despite even the President's intervention efforts, the meeting adjourned on October 24, without agreement.

Attorney General Palmer, meantime on October 31st, petitioned the U. S. District Court in Indianapolis for an injunction restraining the officers and members of the United Mine Workers from carrying on the proposed strike. The petition was based upon the Lever Act providing for war-time control of food and fuel. (*) The Attorney General stated (October 29) that the government had a right to prevent the strike because of its illegality. He held that the Armistice had not ended the war and pointed out that war emergency statutes were still in effect according to the courts.

President Wilson requested that the strike order be recalled since it had not been approved by the individual members of the United Mine Workers and since it interfered with the efforts of the government to restore normal economic conditions.

Labor was seriously opposed to the government's action on the ground that the Lever Act had been intended to prevent hoarding and profiteering in war time and that a promise had been made that it would not be used to bring action against workmen.

Judge A. B. Anderson, of the Federal Court at Indianapolis, on October 31st handed down a temporary restraining order that was operative until November 8th when a hearing on the temporary injunction was to be held. The hearing on the government's motion for a temporary injunction resulted in the granting of an injunction. In the new restraining order the defendants were required to issue a withdrawal and cancellation of the strike order which was to be distributed and circulated among district and local unions in the same manner as the strike order had been issued and this to be done by November 11, 1919.

(*) Section 4 of the Lever Act made it unlawful "to conspire, combine, agree or arrange with any other person (a) to limit the facilities for transporting, producing, harvesting, manufacturing, supplying, storing, or dealing in any necessaries, (b) to restrict the supply of any necessaries, (c) to restrict the distribution of any necessaries, (d) to prevent, limit, or lessen the manufacture or production of any necessaries in order to enhance the price thereof".

The United Mine Workers' officials issued cancellation orders along the lines laid down by the court, but the strike preparations went forward. (*) The Bureau of Mines estimated that 418,279 men or 67.2 per cent of the total number of men employed in the industry were engaged in the industrial dispute of 1919. The strike at its maximum tied up 71 per cent of the coal producing capacity of the country. In many fields -- Northern Pennsylvania, Pittsburgh district, Ohio, Michigan, Southern Appalachian, Indiana, Illinois, Iowa, Arkansas, Oklahoma and Washington -- the strike was 100 per cent effective. While in part of central Pennsylvania, Cumberland-Piedmont, Fairmont, New River, Missouri, Kansas, Montana and Wyoming, the strike at its height affected 90 per cent or more of the productive capacity. In some fields the strike was 100 per cent effective from November 1st to the middle of December. In other areas the men were out only a week or two. (For a statistical presentation of strike effectiveness in 1919 see Table I.)

Since a joint meeting beginning on November 18, had reached a deadlock the Secretary of Labor proposed a general wage increase of 31.6 per cent as a basis of settlement This amount supposedly represented the increase in wages to tonnage workers necessary to correlate with increased living costs and extended to day workers. The proposal was accepted by the miners and approved by the operators on the condition that the Fuel Administration would increase prices sufficiently to yield a profit. The conference adjourned and Secretary of Labor Wilson's proposal was referred to Dr. Garfield. The latter stated his conclusions to the miners and operators on November 26. He refused to approve the 31.6 per cent increase and offered instead a 14 per cent increase (Garfield Award). The new figure was derived from the same Bureau of Labor data used by the Secretary of Labor but was based on a weighted average increase to all miners necessary to adjust to the increased cost of living. The miners refused this proposal but the operators readily accepted it.

Federal troops were sent to West Virginia, Pennsylvania, Tennessee, Wyoming, Utah, New Mexico, Oklahoma, Kansas and Washington to protect all men who desired to work in the mines. A public statement urging strike settlement was issued by President Wilson on December 6th. After a conference with government officials, the labor representatives announced on December 10th that the miners would return to work with a 14 per cent wage increase. They resumed work on the condition that the President of the United States should appoint a commission of three, representatives of the miners, operators and the public, whose report should be accepted as a basis of a new wage agreement and of an adjustment in prices, if necessary.

The Commission, known as the United States Bituminous Coal Commission was appointed on December 19, 1919 and began hearings on January 12, 1920 and reported March 10, 1920, which was within the 60 day limit set for its activities.

(*) Considerable controversy developed over the wording of the union order. It was argued that the order was so worded that the local unions paid no attention to the cancellation order from the international union.

TABLE I

Maximum extent to which the productive capacity of the coal districts was curtailed during the great strikes 1919 and 1922

District	Maximum % of Dist. Capacity closed during strike 1919	1922	Dist. Prod. in 1918 (net tons)
Central Pennsylvania		92	61,629,000
Section A (Pa. R.R. & connections	67		a/ 25,000,000
Section B (C.R.R.R. " "	99		a/ 16,000,000
Section C (Buffalo, Rochester and Pittsburgh R.R. & others)	91		a/ 20,629,000
Northern Pennsylvania	100	a/97	8,051,000
Pittsburgh, Pa.	100	c/95	46,289,000
Panhandle, West Virginia	61	44	3,255,000
Westmoreland, Latrobe, Greensburg, Legonier	5	a/65	17,701,000
Connellsville	0	a/81	35,677,000
Somerset	6	a/88	7,196,000
Cumberland - Piedmont	98	85	7,073,000
Fairmont, West Va. e/	90 a/	87	20,104,000
Northern, Ohio	100	95	30,267,000
Michigan	100	100	1,465,000
Southern, Ohio	100	c/100	15,768,000
North Eastern Kentucky	70	8	7,109,000
Hazar, Kentucky	0	---	2,364,000
Kanawha f/	88	90	15,324,000
Kenova - Thacker	0	g/	7,024,000
Logan	0	---	10,207,000
New River	98	a/80	9,292,000
Indian Gulf	0	g/15	5,156,000
Pocahontas & Tug River	0	g/	23,120,000
Southwestern Virginia	8	---	9,041,000
Southern Appalachian e/	100 b/	57	11,712,000
Harlan, Ky.	60 b/	21	3,202,000
Alabama and Georgia	46	---	19,252,000
Western Kentucky	58	7	10,253,000
Indiana	100	c/100	30,076,000
Illinois	100	c/100	89,231,000
Iowa	100	100	3,192,000
Missouri	99	93	5,388,000
Kansas	99	94	7,502,000
Arkansas	100	98	2,227,000
Oklahoma	100	78	4,813,000
Texas	50 a/	25	2,241,000
North Dakota	30 a/	37	720,000
Montana	90 a/	98	4,538,000
Colorado	55	53	12,408,000
Utah	0	45	5,137,000
New Mexico	15	15	4,023,000
Washington	100	50	4,082,000
Wyoming	95 a/	100	9,436,000
Total United States	71.4	73.3	579,281,000 h/

a/ Partly estimated.
b/ Of the capacity of the Harlan County Operators Assoc. 81% was closed but the Lynch mines continued to operate.
c/ Certain stripping pits and mines serving purely local trade continued to operate.
d/ Less than half of 1 per cent.
e/ Includes all of Northern West Virginia except Panhandle and Cumberland-Piedmont Districts.
f/ Includes all high-volatile coal produced in Southern West Virginia except that in New River, Logan & Kenova-Thacker Districts.
g/ Includes Tennessee and all of Southern Kentucky except Harlan County
h/ Exclusive of production in Alaska, California, Idaho, No. Carolina, Oregon and South Dakota.

Source: "Coal in 1918, 1920, 1921" pp. 505-506; "Coal in 1922", pp. 518-519. Based on weekly production figures.

Note: These figures represent not the percentage of the mines closed down by the strike but rat or the percentage of miners that were absent from work and therefore show the part of the normal producing power of the district shut off by the strike. It does not mean that 81% of the mines in the Connellsville district were thrown idle by strike for a large number continued to operate with depleted forces. It does mean that something like 81% of the employees were absent from work at the moment of maximum effectiveness of the strike and that potential shipments were cut to something like 15% of what had been possible before. Because the moment of maximum effectiveness did not come in all districts at the same time, the shut-down over the country as a whole was never quite as great as is here indicated.

Despite efforts to have the U. S. Bituminous Coal Commission arrive at unanimous conclusions, such agreement was not reached. The Commission presented majority and minority awards. The majority award provided for an increase of 31 per cent to tonnage men and 20 per cent to day workers over over the rates prevailing on October 31, 1919 prior to the Garfield Award. This award meant a wage increase of 24 cents per ton for mine run coal, pick and machine, 20 per cent on yardage and deadwork, a $1.00 per day increase to day men. It refused to grant the six-hour day, recommended setting up of bipartite groups in various districts to study wage rates and working conditions, and stated that the award should be effective for two years from April 1, 1920. The minority award differed primarily on the low increase to day workers. The Commission's award applied only to the Central Competitive Field and the outlying districts under the control of the union. But the award recommended that operators in Alabama, Tennessee, Eastern Kentucky, and Maryland should arrange to effectuate the provisions of the award in order to maintain industrial peace and tranquility.

A subsequent joint conference held in New York on March 29 led to the formulation of a joint interstate agreement (effective April 1, 1920 to March 31, 1922) which incorporated the Commission's award.

Despite the joint agreement, however, the award was received with considerable dissatisfaction in Illinois, Indiana and Ohio. The chief causes of discontent were the use of each district to adjust internal differences, the retention of the penalty clause, and the inequality of the wage increase to day workers as against tonnage men. The refusal of the Illinois operators to accede to the mine worker's demand for $2.00 per day increase was followed by strikes in many Illinois mines. The operators held that these walkouts were illegal and in violation of the Commission's award. They petitioned the President to take action in checking the strike. The matter was referred to the Secretary of Labor who on July 23rd, appointed three conciliators to go to Illinois to attempt to end the strike.

Meantime the strike had spread to Indiana, Iowa, Kansas, Arkansas, and parts of Ohio and Pennsylvania. President Wilson stated that upon resumption of work by the miners he would invite the interested parties to a meeting of the joint scale committees for consideration of any inequalities which may have developed from the Commission's award.

Following the receipt of this statement, the union ordered the men to return to work. By August 3rd, 50 per cent of the Illinois mines were operating and a week later practically all the mines in Illinois and Indiana had resumed work.

A meeting of the joint scale committees was called by the President on August 10th. This meeting was held August 14th in Cleveland. Four days later the conference adjourned without agreement. Separate district agreements were then authorized. A joint agreement in Indiana led to an increase of $1.50 per day for day workers. Similar settlements were made in the other three states in the Central Competitive Field, as well as in the Southwestern Interstate Field.

Aside from the dispute arising over the day men wage scale, the union was exerting its efforts to retain and organize areas in the South. The international executive board of the United Mine Workers, upon petition of the Alabama officials, surveyed the conditions there on September 1st, and authorized a strike on September 7, 1920. The union stated that its basis for the strike was the refusal of Alabama operators to accept the Bituminous Coal Commission's award. The operators regarded union recognition as the dominant issue. The strike involved 8,490 men for an average of 94 days, ending February 22, 1921. Several months after the strike had been in effect, it was submitted to Governor Kilby of Alabama for arbitration. The Governor's award was unfavorable to the miners. The strike marked the loss of Alabama to the United Mine Workers.

Perhaps the most bitterly contested strike of the year occurred in the Kenova-Thacker (Mingo County, West Virginia) in the Tug River Valley, between West Virginia and Kentucky.

The depressed economic conditions of 1921 resulted in two trends of development (1) operator demands for wage agreement revision with union refusal in many coal fields (2) in other areas agreements with the United Mine Workers were broken. John L. Lewis announced a policy of no wage reduction and no step backward.

By the middle of the summer of 1921, demands for wage reductions came from operators in Pennsylvania, Washington, Iowa, Kansas, Colorado, West Virginia, Tennessee, Alabama, Texas, and Missouri. Producers in the Central Competitive Field (with exception of Ohio) were able to withstand the competition from the non-union producing areas, but the areas bordering on the non-union fields were hard hit. Central Pennsylvania producers competing with the non-union fields of Westmoreland and Somerset requested wage reductions, as did Georges Creek and Fairmont operators facing similar competition. These requests were not granted.

In Washington, Texas, and Colorado wage agreements were changed without union sanction. Washington operators announced a return to the October, 1919, wage scale and contract rates effective March 15, 1921. The union refused to accede and many mines began operating on a non-union basis. Colorado Fuel and Iron Company announced (August, 1921) a return to the 1917-1919 scale. It was approved by the Employees Representation Plan, but the union employees went out on strike. In Texas some 800 miners were engaged in a strike.

The United Mine Workers continued their efforts to organize the non-union coal fields of West Virginia, centering in Mingo County. The employment of Baldwin-Felts detectives by operators and the eviction of striking miners from company owned houses, intensified hostilities. The Governors of both West Virginia and Kentucky requested federal aid.

In June more violence occurred. About August 20th hundreds of union miners assembled at Marmet, West Virginia with the intention of marching on Mingo County, some eighty miles distant. The march began August 23rd and two days later it was reported that 4,000 miners were in the assemblage. Hundreds of individuals were deputized by the Logan County sheriff preparatory to halting the advance. The Governor appealed to the War Department for troops. A War Department representative investigated the situation and interviewed the district union officials which resulted in halting the advance. The alleged firing by state troopers upon some armed miners (August 28) resulted in a renewal of the march. A proclamation issued by the President on August 30th ordered the marchers to disperse. The area was placed under martial control a few days later when some 2,000 troops arrived. Conditions soon quieted down and by September 8th some of the troops were withdrawn. All the troops left the strike zone by December 6th, but many miners continued on strike.

The wage agreement, made in 1920, called for an interstate joint conference to be held prior to April 1, 1922. As the expiration date (March 31, 1922) of the joint agreement approached, efforts were made to begin new negotiations. The mine workers extended invitations to the operators to meet in a joint conference at Pittsburgh on January 6th. Indiana and Illinois operators accepted the invitation, but the Pittsburgh Coal Producers Association and the Southern and Eastern Ohio Coal Operators Association refused to attend. Because of inadequate representation the meeting was called off.

The coal operators were becoming increasingly dissatisfied with the collective bargaining arrangements with the union. The business depression beginning in 1921 was attended by decreasing sales realizations for coal, while wage costs were fixed and inflexible. Moreover, the operators argued that the interstate agreement for the Central Competitive Field was unsatisfactory. They argued that mine labor was demanding negotiation in unwieldy units, whereas the proper basis for negotiation was the individual district because of the differences in competitive conditions affecting each one. The operators also contended that the original conditions - East - West competition - which resulted in the Central Competitive Field arrangement had gradually disappeared. The increasing significance of the southern coal producing areas, especially West Virginia and Kentucky, in the competitive markets plus the fact that these areas were largely non-union and so not subject to fixed wage agreements made for a North-South competition rather than the East-West which had previously prevailed.

Despite the fact that the mine operators' contentions continued for more than a decade and that they were becoming increasingly opposed to collective bargaining under the old Central Competitive Field pattern, the United Mine Workers strenuously resisted any rearrangement of the collective bargaining procedure. The union was aware of its ineffectiveness in bargaining on a North-South basis because the southern fields were mostly unorganized.

The union did not agree to a change in the collective bargaining policy until 1928 by which time it had been greatly weakened and many operators had turned to open-shop operation. The inability of the industry and labor to readjust themselves to the changing competitive relationships was perhaps a primary explanation of the disintegration of collective bargaining. It was not until the passage of the N.I.R.A. when Section 7 (a) of that Act operated to unionize areas both north and south of the Ohio River that the collective bargaining pattern was changed so as to recognize the North-South competition. The mine workers, following the dictates of a reconvened convention, renewed their invitation to the operators to meet in a joint conference on March 2, 1922. President Harding on February 24th instructed Secretary of Labor Davis to use his efforts in bringing about a joint conference. Secretary Davis found the response to his efforts unsatisfactory.

The refusal by the operators to meet in joint conference was followed by an official strike call issued on March 20th to be effective March 31, 1922. The strike began April 1 and soon became fairly complete. (See Table II.) For the country as a whole, 460,589 men or 67 per cent of the total number of men employed in the industry were engaged in the strike. (*) The average number of days lost per man on strike amounted to 117. The strike was 100 per cent effective in Michigan, Indiana, Illinois, Iowa and Wyoming (see Table I). Other areas which were almost completely shut down (90 per cent or more) were Central Pennsylvania, Pittsburgh district, Ohio, Kanawha, Missouri, Kansas, Arkansas, and Montana.

A number of factors combined to make the 1922 strike the greatest in the industry's history. Although the United Mine Workers had been losing strength, especially in the fields south of the Ohio River, strong support for the strike was gained by the walkout of approximately 100,000 miners in the non-union areas of Connellsville and Somerset in Pennsylvania. These areas, producing more than 40,000,000 tons annually, had taken a negligible part in the 1919 strike, but more than 80 per cent of their production was curtailed in the 1922 strike. In contrast to this support are the losses in strike effectiveness in 1922 as against 1919 in Panhandle, (W. Va.); North-eastern Kentucky; New River (W. Va.); Southern Appalachian, (W. Va. and E. Ky.); Harlan, (Ky.); Alabama and Georgia; and Western Kentucky fields. Opponents of the international union claimed that the union officials had betrayed the strike by allowing District 23 (Western Kentucky) to continue production on the old wage scale until April, 1923, (**) and by signing a two-year contract in District 19 (Southeastern Kentucky and Tennessee).

(*) Coal in 1922, U. S. Bureau of Mines

(**) Since the Western Kentucky contract did not expire until April 1, 1923, the United Mine Worker officials held that they were obligated to uphold the tradition of not violating an existing agreement.

Table II

Percentage of Possible Full Time Operation

of Union Bituminous Coal Mines Before,

During, and After Strike of 1922 1/

Coal Districts	Jan.1 Apr.1 1922a/	Apr. 29	May 27	July 1	July 29 b/	Aug 19	Sept. 2
Oklahoma	59.6	15.0	12.0	16.4	11.9	16.0	42.6
Iowa	78.4	0.0	0.0	0.0	0.0	0.0	97.1
Ohio, eastern*	46.6	0.0	0.0	0.0	0.0	0.0	47.7
Missouri	66.8	0.0	2.0	4.1	5.0	7.0	53.8
Illinois*	54.5	0.0	0.0	0.0	0.0	0.0	62.8
Kansas	54.9	12.0	14.0	24.3	21.8	14.7	84.5
Indiana*	53.8	0.0	0.0	0.0	0.0	0.0	NR
Pittsburgh, rail*	39.6	0.0	0.0	0.0	0.0	0.0	NR
Central Pennsylvania	50.2	11.9	11.1	11.6	11.8	14.4	72.7
Fairmont	40.0	3.8	5.5	NR	4.1	10.9	41.8
Kentucky, western c/	37.7	59.3	76.1	70.5	52.9	51.9	45.7
Pittsburg , rail & river*	31.9	0.0	0.0	0.0	0.0	0.0	NR
Kanawha	18.0	2.1	6.1	10.0	6.1	8.7	19.5
Ohio, southern*	24.3	0.0	0.0	0.0	0.0	0.0	49.4

1/ Wyckoff, Vertrees J., The Wage Policies of Labor Organization in a Period of Industrial Depression, 1926, Johns Hopkins Press. Based upon U.S. Geological Survey reports in Coal Age for period covered.

a/ Strike began April 1, 1922.

b/ Strike ended August 19, 1922. September 2nd was nearest to a complete report for the districts listed.

c/ Western Kentucky worked under a no-strike agreement.

* Members of Central Competitive Field.

NR No Report.

The transportation situation in 1922 added greatly to the effectiveness of the coal strike. On July 1, 1922 the Railway Shopmen went on strike in protest against wage reductions. In addition, the railroads were faced with a general car shortage at its maximum exceeding 179,000 cars. The supply of cars was wholly inadequate to meet the demands of the increased output in the non-union fields. Even after the coal strike ended (August 19, 1922), the car shortage continued because of the unusual consumer demand.

Fear of a coal shortage plus the violence which attended the strike as at Herrin, Illinois and at Cliftonville, West Virginia, led to government intervention. The President on June 28th called for a conference at the White House for July 1st. The operators' and miners' representatives met with the President again on July 10th, at which time the President proposed that:

1. The miners return to work at the wage level of March 31st until August 10, 1922.

2. A coal commission be created consisting of three mine worker representatives; three operator representatives and five Presidential appointees. The decision of this group to be final.

3. The commission shall determine within 30 days from July 10, if possible, a temporary basic wage scale to be effective until March 1, 1923. If this scale could not be effected, then the commission should continue the 1922 scale.

4. All phases of the industry should be studied by the commission.

The miners and operators indicated willingness to accept, but the miners withheld acceptance of arbitration. Pittsburgh operators, on the other hand, suggested separate arbitration for their district, 1917 wage scale and elimination of the check-off.

The operators were assured of governmental support where mines were run with strike-breakers. Telegrams were sent to the governors of twenty coal producing states offering federal support where state agencies were inadequate. Troops were held in readiness for strike duty.

On August 1st, the miners invited the Central Competitive Field operators to a joint conference to be held in Cleveland August 7th. Illinois operators refused to attend, insisting on arbitration. Less than 20 per cent of the Central Competitive Field's tonnage, mostly from Ohio, was represented at the conference. Later on producers in the outlying fields were admitted to the meeting. A sub-committee report, favoring a renewal of the March 31, 1922, contract and a resumption of work met with approval on August 15th. It was also agreed to hold a joint conference in Cleveland on October 2nd. At the latter meeting, provision was made for a commission to formulate a method to negotiate a wage agreement for April 1, 1923 and that a joint conference be held January 3, 1923.

Prior to this time, however, the United Mine Worker President recognized the inability to bring the Central Competitive Field operators in line as a unit. He, therefore, made it possible for any groups or individual operators in the field to enter into the agreement. As a result, it was said that the Central Competitive Field could no longer be considered as a basic unit. The 1922 wage agreement extended the previously existing (1920) basic day wage rate of $7.50 and was based upon collective bargaining rather than arbitration.

By August.19, the agreement had been signed by the majority of operators in Ohio, Fairmont field, Michigan, and in part of Central Pennsylvania so that coal was already beginning to move. During the following week (August 20-26), additional agreements were signed in Kanawha, Michigan, Montana, Illinois, Indiana, Wyoming, and Southwest Interstate Field. Several days later agreements were signed in the State of Washington and by important producers in the Pittsburgh district.

Although the strongly organized fields had resumed work the strike continued in fields of two types:

1. Formerly non-union areas where men had struck and continued to hold out for recognition and wage contracts. This group was represented by the Connellsville district and parts of Westmoreland, Somerset and Central Pennsylvania.

2. Areas where operators were unwilling to renew the agreements formerly in effect that had expired on March 31st. In this group belonged the Chesapeake and Ohio section of Kanawha and part of the Georges Creek and Upper Potomac region.

Meantime, President Harding in his address to Congress on August 18th, asked that a law be enacted providing for a commission to investigate the industry. Enactment took place on September 22nd and on October 10th, the President named the members of the U.S. Coal Commission. This agency was to make its first report by January 15,1923.

The general freedom from industrial disputes during the year 1923 was largely attributable to the urgent request made by the U.S. Coal Commission that operators and miners meet in joint conference. The meeting took place from January 17 to 21st, 1923. A tri-state agreement was signed by the operators of Illinois, Indiana, and Ohio. Somewhat later the Pittsburgh Producers' Association and the Pittsburgh Coal Company joined in the agreement. The contract was made effective until April 1, 1924 and provided for a continuation of the wage rates in the previous agreement. It also provided for a readjustment of inequitable differentials in the various districts. The Southwestern Interstate Field also continued its agreement.

Perhaps the only important industrial dispute in 1923 was that in Cumberland - Piedmont fields of Maryland and West Virginia. This dispute was really a heritage of the 1922 strike, having begun on April 1, 1922. It was not declared ended until November 22, 1923.

1924 - 1933

A joint conference of operators and miners' representatives for Illinois, Indiana, Ohio, and Western Pennsylvania began on February 16, 1924 at Jacksonville, Florida. This conference renewed the previously existing wage rates for the period April 1, 1924 to March 31, 1927. In the testimony presented before the Senate Committee on Interstate Commerce, which was investigating conditions in the coal fields of Pennsylvania, West Virginia, and Ohio, John L. Lewis, United Mine Worker President, stated that the agreement was made possible through the cooperation of the agencies of the Federal Government, the Department of Justice, Commerce and Labor participating. (*)

When the Jacksonville Agreement was negotiated, the Western Kentucky, Kanawha fields in Southern West Virginia, and Fairmont and Morgantown fields in Northern West Virginia operated on a union basis. The Kanawha and Western Kentucky operators refused to become parties to the Jacksonville Agreement and closed down their mines. Since the situation involved the survival of the union in these fields, a bitter struggle ensued. The industrial dispute dragged on many months and resulted in the elimination of the United Mine Workers from these fields.

At the time of the Baltimore Agreement (counterpart of the Jacksonville Agreement for Northern West Virginia), March, 1934, there were 79 union and 74 non-union companies operating in Northern West Virginia (242 companies were idle). (**) The union mines produced 70 percent of the tonnage. One month later, it was said, that the union companies had decreased from 79 to 49 and that their tonnage had fallen to 60 percent. The passage of less than a year (January, 1935) found only 34 union companies continuing operations, while non-union companies had increased to 139. John L. Lewis estimated that 35,000 men were affected in this area.(***)

(*) Hearings before the Committee on Interstate Commerce, United States Senate, 70th Congress, 1st Session, S. Res. 105, Vol. I, p. 378. Mr. Lewis pointed out that the government assistance is confirmed in the twelfth annual report of the Secretary of Commerce for the fiscal year ending June 30, 1924, pp.13 and 14.

(**) Coal Age, January 14, 1935, p. 43 et seq.

(***) Hearings on S. Res. 105, 70th Congress, 1st Session, Vol. I, p. 381.

The struggle between the union and non-union operations was characteristic of the industry throughout the period 1924 to 1927. For many months after the strike of 1922, wage rates in non-union fields approximated union rates, but late in 1923 wage cuts were reported. Soon after the signing of the Jacksonville Agreement, most non-union operators reduced the rates first to the 1919 scale and later to the 1917 level or lower. Thus while many non-union mines were paying between $4.00 and $5.00 for inside day labor, the union fields were faced with a standard day wage of $7.50. Many operators in union fields felt they could not pay the Jacksonville scale and shut down their mines. Heavy stocks of coal accumulated in 1923 in anticipation of a suspension of activities were carried over into 1924 and served to depress the market. An example of the competitive advantage of the lower wage scale in the non-union field may be seen in the fact that in 1924 non-union Western Kentucky sold coal at an average sales realization of $1.73 f.o.b. mine, whereas in Indiana, its union competitor, the average sales realization was $2.16, a difference of 38 cents per ton. By 1925, the competitive advantage had increased to 58 cents per ton ($1.44 in Western Kentucky as against $2.02 in Indiana). (*) In addition to the advantage in wage rates, the non-union fields (primarily east of the Mississippi River and South of the Ohio River) were better off since they were newly developed, having entered into production more recently than the central competitive region, and also because they produced, in general, a coal of superior quality.

The differences in the cost of production were reflected in the fact that business was diverted from the northern to the southern fields. Between 1923 and 1926 production in Ohio decreased 31 percent, in Indiana 12 percent, and in Illinois 13 percent. (**) As against these decreases, West Virginia showed an increase of 33 percent, Kentucky 41 percent, and Virginia 20 percent.

The competitive conditions described above were evidenced by constant efforts on the part of the union operators to secure wage rate revisions. Since the union was adamant in its opposition to wage scale changes, three separate developments were undertaken to break the United Mine Worker contracts. (***)

(a) Indiana - A number of mines in Knox County entered into cooperative mining schemes in order to circumvent the contract wage scale. Mines were "leased" to groups of miners and former subordinate officials of the operating companies. The lease set up standards of work for the lessees (miners) and provided

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(*) Coal in 1925, p. 397.

(**) Coal in 1926, p. 429.

(***) Coal Age, October 8, 1925, pp. 491 - 495.

that the sales agent of the lessors (operators) should receive 10 cents per ton. The United Mine Workers opposed the plan and threatened miners with loss of union membership. A temporary injunction, seeking to restrain United Mine Worker action, was later dissolved. The union was successful in its attack.

(b) Pomeroy Bend-Ohio - The Ohio district convention of the United Mine Workers (1935) resolved to bar miners engaged in cooperative mining schemes from union membership. Cooperative mining in Ohio was limited to small enterprises. More significant than cooperative mining was the open attack made by Pomeroy Bend operators against the Jacksonville Agreement. The leader in the movement to return to the November, 1927 wage scale was the Pittsburgh Coal Company. Soon a number of other companies followed suit. Considerable property damage and physical violence occurred in the effort to maintain the contract sale.

(c) Western Pennsylvania - The Pittsburgh Coal Company, on May 19, 1925, closed the last of its 54 mines operating on the Jacksonville scale. It began reopening its mines (August 20) on an open shop basis with reduced wage rates (1917 scale). Other companies in the district followed suit.

According to the testimony offered by a United Mine Worker official at a Senate Committee hearing, the Pittsburgh Coal Company employed 16,000 men prior to August, 1925. (*) After the mines were reopened on an open shop basis, union miners were bitterly opposed. By 1927, the company was employing 9,000 men.(**)

The Consolidation Coal Company, operating in the Fairmont field of West Virginia, ceased to operate on the United Mine Worker contract on June 1, 1925. (***) Other operators in that region as well as in the adjoining Morgantown field, entered upon a similar program.

(*) Ibid, supra, Vol. I, p. 13.

(**) Ibid, supra, Vol. II, p. 1333.

(***) Ibid, supra, Vol. I, p. 376.

The anthracite strike which began on September 1st served as a temporary relief for the depressed bituminous market. The chief beneficiaries were the smokeless coal fields in Southern West Virginia and Central Pennsylvania and high volatile lump coal producers close enough to the anthracite region to participate in the demand.

The situation in the Southwest Interstate Field during the period 1924 - 1927 was similar to that in other areas. The non-union movement began when the operators delayed from March 28, 1924 to May 3, 1924 before consenting to a 3-year extension of the rates which had applied from 1920-1923 (Kansas City Agreement). Operators had requested a reduction in day rates from $7.50 to $6.00 in order to meet the losses to competing fuels and the lack of a home market.

Within less than a month after the signing of the Kansas City Agreement, mines in the McCalester-Wilburton district (Oklahoma) reverted to the November, 1917 scale. By July, the open shop movement was fully under way and violence occurred. At the end of the year (1924) only the Henryetta district in Oklahoma continued to retain the agreed scale. Early in 1925 the Henryetta district ceased to maintain the Jacksonville-Kansas City Agreement. A strike order was issued in August, 1925 against all mines in District 21 (Oklahoma-Arkansas) paying less than the Jacksonville scale.

The open shop movement in Arkansas was not really in full swing until 1925, although one operator broke with the union in January, 1924. Industrial dispute data show that 32percent of the men in the Arkansas fields were on strike in 1924 and over 15 percent in 1925. (*) The average days lost per man on strike in that area were 75 in 1924 and 8 in 1925. Although the percentage of men represented as striking in Oklahoma was lower than in Arkansas (21 in 1924 and 6 in 1925) the duration of the dispute was longer (110 days in 1924 and 48 days in 1925 - average days lost per man on strike).

Labor conditions in 1926 were alleviated somewhat by several factors working together. One factor was the increase in industrial consumption at home. Despite the fuel economy and the competition of oil and water power, home industry demand exceeded that of the immediately preceeding years. Some additional 12,000,000 tons of bituminous coal were needed to replace the loss resulting from the anthracite suspension which continued from the preceding year into early 1926. Added to these factors was the general walkout of the British miners on May 1, 1926, resulting in an expansion of sea-borne exports, total exports of bituminous coal in 1926 reached 21,510,000 tons, an increase of 450 percent over 1925. (**) The export trade was beneficial to the eastern bituminous coal fields, especially those of Pennsylvania and West Virginia. Interior

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(*) Coal in 1926, pp. 422, 423.

(**) Ibid, Supra. p. 424.

fields also benefitted since the competitive pressure from eastern shippers was lessened. Alabama production was stimulated in the late fall when delay in loading export coal at eastern ports caused diversion of foreign vessels to Pensacola.

The market conditions caused by the British strike resulted in a temporary increase in non-union wage rates. A number of union mines in Pennsylvania and Ohio had closed down, but with higher prices resumed production at the Jacksonville scale. Nearby open shop operations were soon compelled to increase their wage rates. One large company in the Pittsburgh district, which had been operating open shop since August, 1925, announced an increase in wage rates (effective October, 1926) to a level 5 per cent above the Jacksonville scale. (*) This example was followed by other producers in the same region and in the Connellsville, Panhandle, and Kanawha fields and even in Kentucky, Tennessee and Virginia.

The relief to the Northern fields and union operations was temporary. Before the end of the year declining selling prices brought wage reductions in the Cumberland-Piedmont, Somerset, Cambria, and Freeport districts, and at some operations in West Virginia and Kentucky.

Those operators who continued to pay the wage rates specified in the Jacksonville Agreement demanded a reduction in wages when the old contract expired on March 31, 1927. At a meeting of the Ohio Coal Operators' Association held at Columbus, Ohio on January 6, 1927, a proposal was adopted which provided that the operators should have a new wage scale which would be sliding rather than fixed and which would be"continuously competitive" with wages paid in the non-union fields of the South (see Figure I). This proposal was again submitted to a meeting of representatives of operators for the Central Competitive Field at Toledo, Ohio, on January 19 and was approved on the behalf of Illinois, Indiana and Western Pennsylvania. The operators were generally agreed that the Central Competitive Field as a wage making unit was dead and that competition was no longer east-west,but rather north-south.

Pursuant to the terms of the Jacksonville Agreement, representatives of operators and miners met in joint conference at Miami, Florida on February 14, 1927, for the purpose of negotiating a new agreement. The conference was deadlocked over the operators' proposal for a reduced sliding scale which was strongly supported by Ohio and Western Pennsylvania and was formally endorsed by Indiana and Illinois. This proposal was rejected by the miners upon the ground that it offered them no protection against having to accept the wages, hours, and working conditions of non-union miners employed under individual contract, in non-union territory. The conference adjourned sine die on February 22nd.

(*) Coal Age, November 4, 1926, p. 641.

The union policy committee announced on February 23rd that any outlying district could continue on the old scale after March 31, without prejudice pending a settlement in the Central Competitive Field. Central Pennsylvania and Michigan accepted this proposal, as did producers in Wyoming and other far Western States. The Southwest and Iowa declined. At a meeting held in Indianapolis on February 28th, the policy committee extended the same privilege to districts and individual operators in the Central Competitive Field. Individual agreements were made by some companies in Indiana and Illinois. In Western Pennsylvania the steel affiliated operators shut down on March 31.

With the legal expiration of the Jacksonville Agreement, a suspension of bituminous coal mining began on April 1, 1927. The dispute involved directly about 175,000 men, exclusive of 15,000 miners in Central Pennsylvania who suspended work on July 1st. It affected more or less directly mining operations in a widely scattered number of states -- Illinois, Pennsylvania, Ohio, Indiana, Kansas, Missouri, and Iowa.

In Illinois a large number of the miners suspended work from April until the following October. During this period there were various attempts at negotiation. Finally a third conference, late in September, led to the signing of a truce agreement on October 1, effective until April 1, 1928 maintaining the Jacksonville scale.

The Indiana miners and operators faced the same difficulties in negotiation. A strip pit contract was successfully negotiated in April, but shaft mine conferences broke up over the scale of wages to be paid. Finally, on October 7, Indiana also made a temporary agreement with the union. Similar settlements were made in Iowa on October 4th and in the Southwestern district on October 6th. Operators in Ohio, Pennsylvania, and West Virginia refused to meet union demands. Ohio operators issued an ultimatum that former employees were to return to work before July 15 on 1927 wage scale. Ohio, with a few exceptions, and Western Pennsylvania had definitely broken with the union and were operating open shop. (*)

The major part of the decline in total output after the beginning of the suspension may be attributed to the cessation of work in the union fields north of the Ohio River. While these areas showed a sharp decline in production, important non-union states south of the Ohio River showed increased productivity.(**) A comparison of production for the seven months, April to October, 1927, with the corresponding period in 1926, showed a decline of 77.8 per-

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(*) 14 operators in Ohio (middle district and few small operations in Hocking) signed an agreement with the union which ran from September 1, 1928 to March 31, 1930. The basic inside scale was $5.00 per day and the pickmining rate was 87 cents per ton.

(**) Coal in 1927, p. 333. See statistical discussion of strikes and lockouts at the end of this section.

cent in Illinois; 45.9 percent in Indiana; 14.1 percent in Pennsylvania; and 67.8 percent in Ohio. Contrary to this record of declining production, Kentucky tonnage increased 10.2 percent and West Virginia 6 percent. The two largest producing states south of the Ohio River and nearest to the markets normally served by the Northern States counteracted the restriction in the union areas. Consequently the strike did not carry the threat of a coal shortage. In fact, between April and October, only some 13,000,000 tons were withdrawn from storage. (*)

(*) Ibid. supra P. 333

FIGURE I

Wage Proposal Submitted to the Joint Wage Conference of Operators and Mine Workers at Miami, Florida, February 14-22, 1927

(Haskins' (operators') Resolution)

Be it resolved,

(1) That the wage scale for the Central Competitive Field commencing April 1, 1927, must be continuing and at all times a competitive scale with the wages and conditions prevailing in West Virginia and Kentucky.

( ) That in order to make effective Clause 1 a Commission be selected by the respective parties to this Agreement consisting of four Miners and four Operators and three mediators to be mutually chosen by such Commission; or should such Commission be unable to agree upon three persons to act as mediators, or for any reason whatsoever shall fail, neglect or refuse to select such mediators, then the Chief Justice of the United States Supreme Court shall at once select such mediators, and such selection shall be accepted by both parties to this contract.

(3) That the duties of such Commission shall be as follows:

(a) To determine a competitive wage scale for the Central Competitive Field.

(b) To readjust such scale from time to time in order to maintain competitive conditions.

(c) To have final jurisdiction in all grievances appealed from the several districts.

(d) To perform such other duties as may be agreed upon by the Joint Conference of Miners and Operators.

TABLE III

Number of Men and Average Number of Days Lost Per Man on Strike in Selected Coal Producing States in 1937

(Derived from Bureau of Mines Data)

State	Approximate number of men	% of Total men employed who went on strike	Avg. No. Days lost per man on strike
North			
Illinois	67,000	37	150
Indiana	17,000	71	136
Iowa	5,600	64	145
Ohio	26,000	74	214
Pennsylvania 1/	41,700	27	158
Southwest 2/			
Arkansas	390	10	107
Kansas	3,000	43	130
Missouri	2,660	43	127
Oklahoma	163	3	156
South			
Alabama		No STRIKE	
Kentucky	1,300	3	14
Tennessee	50	0.7	60
Virginia		No STRIKE	
West Virginia	980	0.8	48

1/ Central Pennsylvania - 15,000 men went on strike July 1st.

2/ Many operations in these areas operated open shop between [illegible] 1937.

Wage negotiations based upon the Central Competitive Field as a unit no longer being possible, collective bargaining took place for individual districts or areas where union organization was still effective. By 1928 most of the operators in the States of Pennsylvania, Ohio, and part of Indiana, reopened their mines on an open-shop basis at lower wage rates in order to meet the competition of the unorganized districts.

The expiration of the "truce" agreements on April 1, 1928, marked the curtailment of mining activity in a number of union districts. The most important areas thus affected were Indiana and Illinois. The major portion of the time lost due to industrial disputes in 1928 may be explained by the renewal in that year of the suspension that had prevailed during the middle of the preceding year.

On February 8, 1928, a joint conference of Illinois operators and miners sought to negotiate a new contract but adjourned without making an agreement. The operators offered $6.00 per day for day men, and 84 cents tonnage rate, a new rate for workers in mechanized mines and improved working conditions, but these were rejected by the miners. Stripping operations and machine mines were informed that they were permitted to operate on the Jacksonville scale after March 31st. The Illinois operators at a meeting on March 28, agreed to make no state association agreement except at a wage which would modify the Jacksonville scale and allow Illinois to regain its markets. Strip mine operations, however, renewed the truce agreement until March 31, 1929.

Many mining operations in Illinois were suspended after April 1, 1928. The international policy committee of the United Mine Workers on July 18th released district organizations from adherence to the Jacksonville scale as a basis for new negotiations. Prior to the policy committee announcement (May , 1928), a number of miners' local unions in various parts of Illinois broke with the United Mine Workers and negotiated agreements on a lower basis than the Jacksonville scale.

Although the United Mine Workers had made agreements with some individual operators, no general resumption of work took place until September 1st when a joint committee of operators and miners in Illinois announced an agreement. The new wage scale reduced basic day rates from $7.50 to $6.10 and tonnage rates from $1.08 to 91 cents (pickmining). The contract was to become effective September 16, 1928, and continue until March 31, 1932.

In Indiana a similar situation applied and an agreement was reached at Terre Haute on October 18, 1928, between the Indiana Coal Operators' Association and the miners. The contract was effective from November 1, 1928, to March 31, 1930. The wage scale was the same as in Illinois. This contract was twice extended (one year each time) and so was in effect until March 31, 1932.

In September, 1928, under left-wing leadership, rank and file miners from eleven states organized the National Miners' Union. It represented an insurgent movement, essentially revolutionary in character, and arose out of the "Save the Union" activities of progressive and left-wing miners who demanded a more militant policy from the United Mine Workers.(*) The organization took advantage of the desperate condition of the bituminous coal miners owing to low wages, short time, and unemployment. A number of spontaneous local strikes in the Pittsburgh district about June, 1931, led to a strike wave which spread into Southeastern Ohio and Northern West Virginia. Mass picketing and demonstrations occurred. By the middle of June some 20,000 miners were involved. In an effort to counteract this labor upheaval, it is said that the mine operators turned to the United Mine Workers.(**) The Creighton Fuel Company and the Pittsburgh Terminal Coal Corporation signed contracts with the United Mine Workers in July, 1931. In the Scotts-Run field of Monongalia County, northern West Virginia, some 28 companies made a similar agreement.

About this time (June 27, 1931), Mr. Frank Taplin, President of the Pittsburgh Terminal Coal Corporation, wrote a letter which has become public information and which indicates why his company returned to collective bargaining negotiations and also shows the close relationship between wage and price competition. This letter stated in part that:

> "For the past four years these operators who have dispensed with Union agreements have had plenty of time to view the experience of running without any fixed wage scale or without having any labor organization to deal with. It must be admitted that the situation is even worse than when we dealt with the union. Many operators try to keep their properties operating by cutting prices to ridiculous figures, then go back and cut the wages of the miners, and this continues until the level of the miners has been brought down so low in some places as to be a disgrace to the country. Personally, I would much prefer to deal with the United Mine Workers than with these ruthless, price-cutting, wage-cutting operators who are a detriment to the industry."

(*) Watkins, Harold M., Coal and Men, 1934, p. 230.

(**) Lorwin, Lewis, The American Federation of Labor, 1933, p. 263.

"The Southern High Volatile fields have been cutting wages as well as the Northern fields, and they are likely to get into trouble with the communistic element of miners, and before we get through we may find that the only way to solve the wage problem is to put all competitive fields under a well managed union with a fixed living wage scale, to which the miners are entitled, but which never can be done without a union because the operators will not stick to any decent fixed wage scale if they are left to their own devices."(*)

The Pittsburgh Terminal Coal Corporation renewed its contract in 1932 and 1933.

Another insurrectionist movement against the international organization of the United Mine Workers came to a head in March, 1930, when the district union officials of Illinois (District 12) held a convention at Springfield, Illinois for the purpose of reorganizing the United Mine Workers. The feud between the district officials and the international administration headed by John L. Lewis was of long standing.(**) The Springfield Convention delegates chose Alexander Howat as chairman and later as president of the "reorganized" union. Howat had been president of District 14 (Kansas) and had been expelled by Lewis. It was claimed that all of Illinois, Kansas, and the Southwest were with the reorganized union.(***) The district officials held that the national officers of the United Mine Workers had abrogated the constitution by not calling a biennial convention in 1929. The national officers, meantime, demanded that the officers of the Illinois miners relinquish their authority and possessions to a provisional district government set up by the national executive board.(****) The charter of District 12 had been revoked on October 10, 1929 and the International President had appointed provisional officers. The district officers asked for aid secured an injunction restraining the International Union and its agents from revoking the charter of interfering in district affairs. The attorneys for the International Union sought to have the injunction dissolved. The hearing took place on

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(*) Bituminous Coal Code Hearings, August 10, 1933, Vol. II, p. 271.

(**) Cf. events of 1919 Convention - the rebelling elements in that convention had the same leadership as appeared in the 1930 Springfield meeting.

(***) Watkins, Harold M., Coal and Men, 1931, p. 229.

(****) Bloch Louis, Labor Agreements in Coal Mines, Foreword by Mary Van Kleeck.

December 16, 1929 and on January 30, 1930, the court refused to dissolve the injunction.(*)

At the same time as the Springfield meeting, a regular convention of the United Mine Workers was held at Indianapolis to strengthen the constitutional and tactical position of the administration. Both conventions appealed to the American Federation of Labor for support. President Green made efforts to harmonize the two factions and to suppress dual unionism.

After a year of bitter fighting, most officers of the Illinois district made their peace with the International Union. However, a "rank and file" convention was held at St. Louis on April 15, 1931, at which some 30,000 miners were represented, some 25 per cent of whom were Illinois miners. The convention was unsuccessful in launching a new union.

Some of the most serious labor disputes, involving representation of labor for collective bargaining and validity of union contracts, which were presented to the Bituminous Coal Labor Boards during the NRA period arose in Illinois between the United Mine Workers and the Progressive Miners. At the present writing, the controversy between these two unions continues unabated. Issues and personalities are so interwoven that no real solution has thus far been possible.

The year 1932 marked the lowest demand for bituminous coal since 1904. It was a year of falling prices and heavy financial losses. Relief of the unemployed was especially serious in many communities in the bituminous coal fields, where other industries to fall back upon were lacking and resources were already exhausted by years of depression dating back to 1924.(**) The American Friends Service Committee recognized the situation as a special relief problem. With the aid of both public and private funds, the committee at the peak of its activities in 1932 fed miners' children in 363 communities in 41 counties of West Virginia, Kentucky, Pennsylvania, Southern Illinois, Tennessee, and Maryland. This relief work was supplemented by other agencies covering coal as well as other industries.

The 5½ year contract in Illinois expired on March 31, 1932. On August 10, 1932, after a suspension of 19 weeks and a referendum vote of the miners, a new contract was effectuated which extended until March 31, 1933. By the terms of this contract the pickmining rate was reduced to 66¢ per ton (Danville basing point) and the scale for hoisting skilled men was set at $6.00. On December 22, 1933, the former

(*) Proceedings of the United Mine Workers of America, 1930.

(**) Minerals Year Book, 1932 - 1933, pt. III, p. 581.

contract was extended until March 31, 1935.

When the wage scale was drawn up under the Bituminous Coal Code, Illinois, being already under contract until 1935, kept the same scale. Under the amendment to the Coal Code, April 1, 1934, the day rates remained the same but the hours worked per day were reduced from 8 to 7, thus resulting in an hourly increase. The rates for pick and machine mined coal were increased 10 and 8 cents respectively.

When the Indiana contract expired a suspension occurred which lasted until September 10, 1932, when the Indiana operators and miners negotiated a new contract to be in effect until March 31, 1935. For the first time the scale for day men dropped below that of Illinois or $4.575 as against $5.00. The rate for pickmining was 68 cents.

Under the Coal Code Indiana retained its contract rates although the amendment of April 1, 1934, added 10 cents to the pickmining and 8 cents to the loading rates, while hours worked per day were reduced from 8 to 7.

By 1932 labor organization in the bituminous coal mining industry was almost completely demoralized. The breakdown of the Jacksonville Agreement (1924-1927) and the subsequent reopening of mines on an open shop basis was a severe blow to collective bargaining for the United Mine Workers. The spread of non-union operations meant declining membership and increasing financial distress for the United Mine Worker organization. In addition, the disaffection existing within the ranks of the organization weakened its collective bargaining power. For example, the Unite Mine Workers in 1923 claimed an average paid-up membership (exclusive of members exonerated from paying dues because of strikes, etc.) of 445,734 men, yet by 1929 their membership had fallen to 40,000 and by 1932 their claimed membership was 308,300. (*) A United Mine Worker official stated that the auditor's report showed 183,793 members in the organization for 1932.(**) Another indication of the declining strength in the United Mine Workers may be gotten from a survey of the financial statements submitted at the conventions. These statements are not sufficiently detailed in character to disclose exact information as to the income and expenditures of the United Mine Workers. They do show, however, a definite decrease in the balance on hand for almost every audit after 1925. Thus on December 31, 1923, the United Mine Workers reported that the balance on hand amounted to $1,177,021 and that no financial indebtedness existed, yet by December 31, 1933 (even after the increased membership arising under NRA) the bal-

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(*) Lorwin, Lewis, op. cit., pp. 476-477. This author estimated that the dues paying membership in 1932 was nearer 150,000 (p.497).

(**) Proceedings of the United Mine Worker Convention of 1932. Statement made by Mr. Hindmarsh.

...ce on hand amounted to only $311,885. This financial weakening may ... attributed to declining membership and losses in union areas.

In September, 1932, the Progressive Miners of America were or- ...ized from the elements which had not returned to the United Mine Workers fold. A bitter antagonism continued between these two rival unions.

1933

The most important events of the year 1933 for the bituminous coal industry centered around the President's Reemployment Agreement and the passage of the National Industrial Recovery Act. The months immediately preceding the emergence of a single code for the bituminous coal industry and its approval by the President on September 18th were exceedingly important for the United Mine Workers. The union engaged in a whirlwind campaign using all its energy and funds to bring the miners into the union fold.

The union organizers were remarkably successful in their efforts. With the exception of the captive mines affiliated with the steel industry, no very serious resistance against the United Mine Workers was made. The organization campaign among the mine workers in the Appalachian coal fields did, however, have to contend with strikes in Central Pennsylvania, Western Pennsylvania, Ohio, Northern West Virginia, Kentucky, Tennessee and Virginia. In general, the appeal to Section 7 (a) of the NIRA as a recognition of the right to assemble and to organize was effective. Six weeks after the passage of the Act, the United Mine Workers claimed that their membership included more than 90 per cent of the mine workers in the country.

The officers of the union appealed to the President that a conference be organized under the auspices of the Government to effectuate a wage agreement. This conference convened in Washington in July, 1933, and continued through August and the major part of September. The meeting of the Appalachian coal operators and representatives of the United Mine Workers, respectively, representing more than 70 per cent of the national tonnage and of the employees negotiated a wage agreement which became effective October 2, 1933. It established a more closely competitive wage relationship than had ever prevailed in the industry. It established, in general, a base rate for skilled inside day men---trackla...ers---of $4.2[illegible] in states south of the Ohio River and $5.[illegible] in the northern states in the Appalachian region. It was ...ective until March 31, 1934. Schedules as to basic day wages (inside skilled and outside common labor) for all districts in the United States were written into the Bituminous Coal Code. (*)

(*) The actual details of wages and hours under the NRA are discussed in the following sections.

The union drive in Pennsylvania to organize the mine workers spread to take in all operations in Fayette County, Pennsylvania, as well as a number of mines in Westmoreland, Greene, Washington and Alleghany Counties.(*) A strike followed involving considerable violence. Fear that the strike might spread to all mining regions east of the Mississippi led the U.S.A. to intervene. A truce agreement, approved by the President on August 5th was intended to have the miners return to work August 7th, but was not wholly successful.

A new strike, involving some 55,000 miners, broke out in Western Pennsylvania after a meeting at Pricedale on September 13th. The strike was originally directed at the delay in adopting the Code, but was later transformed into a demand for union recognition when the steel companies operating captive mines hesitated to sign wage agreements. (**)

The strike, once under way, spread rapidly to practically all mines in Western and Southwestern Pennsylvania. At its height the strike involved about 75,000 men, of whom 20,000, largely in central Pennsylvania, returned to work on October 3rd. Clashes between pickets and mine guards occurred in several instances. After intervention of United Mine Worker officials and the U.S.A., the steel companies (September 28) signed an agreement to observe the hours and wage provisions of the Coal Code and to observe Section 7(a) of the N.I.R.A. Further difficulty arose over the question of the check-off. President Roosevelt on October 6th summoned steel representatives to a White House conference where conditions governing future negotiations were discussed. By October 16th, practically all the commercial mines reopened, except those in the Connellsville field. The captive mines were shut down until after October 30th when the President held another conference at which the check-off was conceded. (***)

Some 12 operators in Southern Ohio had resumed contractual relations with the United Mine Workers. This contract was entered into on June 15, 1933 and was effective "until such time as state agreements could be made." The scale for inside skilled men was $3.28 per day.

The Progressive Miners of America negotiated a wage contract with the Illinois Coal Producers' Association on April 1, 1933 which was effective until March 31, 1935. The contract provided for the same scale as in the United Mine Worker agreement.

A number of operations in the Pocahontas and Tug River districts, in Southern West Virginia, also were closed by strikes early in October. Some 1,500 to 2,000 miners in Arkansas and Oklahoma stopped work in September in protest against the wage scale set up in the Code and returned to work only on the promise of an upward wage revision. Some strikes in Lee and Wise Counties, Virginia, took place over the question of union activity.

Industrial disputes in the South centered around the questions of union recognition, the check-off, and employment of checkweighmen. Ten Alabama mines, employing 2,000 men, were affected by a strike in October which continued until the middle of the month. The strike was ended by the establishment of

(*) Coal Age, August, 1933, p. 286.
(**) Coal Age, October, 1933, p. 354.
(***) Coal Age, November, 1933, p. 355.

collective bargaining machinery. In Southern Tennessee (October) mines were closed down because of disagreement regarding the check-off. This strike ended October 25th when the wage agreement included the check-off.

Some disturbances occurred in the Rocky Mountain region where the United Mine Workers Union organized strikes in Gallup, New Mexico, and in Carbon County, Utah.

The industrial disputes described above, even though many of them occurred after the Bituminous Coal Code became effective (October 2), characterize the stresses and strains which had to be adjusted between operators and miners after years of chaos and disorganization. They represent problems of local rearrangement. Once these difficulties were settled, production forged ahead.

Regarding the coal industry, it has been said that:

"In no other industry, with the possible exception of agriculture, has the classical concept of unrestricted competition as the automatic and beneficent regulator of prices and wage rates shown more serious defects." (*)

The Coal Industry, perhaps more than any other branch of industrial activity, stood to gain from the control of wages and price cutting.

1934

Prior to the expiration date (March 31, 1934) of the Appalachian Agreement a new wage contract was negotiated providing in general a basic inside skilled day rate of $6.60 for states south of the Ohio River and $6.00 in states north of the Ohio River. (**) It also provided for an increase of 10 cents per ton for pickminers, 8 cents per ton for machine miners, an increase of 1 cent per ton for cutting, and for all yardage and dead work rates an increase of 10 percent. It established a uniform 7-hour day and a five-day week for mine workers in the Appalachian coal fields, with exemption granted to certain classifications of labor. This schedule was written into the Bituminous Coal Code.

The year 1934 represented the first full year under the Bituminous Coal Code. In terms of the industry generally, comparative peace prevailed. In specific instances, however, industrial disputes carried over from the preceding year still harassed the industry. Controversies regarding the captive mine operations in Division I and the United Mine Workers vs. Progressive Miners of America in Illinois (Division II) had their origins prior to 1934. Another group of disturbances arose out of dissatisfaction with the Amendment to the Code (April 1, 1934) and its changes in hours and wages. In many cases mines were shut down as a protest. Later modifications of the Amendment alleviated conditions, although certain areas such as Western Kentucky were definitely alienated (see Chapter VI).

(*) World Yearbook, 1934, Part III, p. 556.

(**) The situations arising under this new wage agreement are treated in Chapter VI.

Considerable uncertainty existed as to the proper authority having jurisdiction over the captive mine operations in Western Pennsylvania. The National Labor Board held that it had no authority over these mines until freedom from the jurisdiction of the Bituminous Coal Code could be established. The Divisional Coal Labor Board, on the other hand, stated that since these mines had signed the President's Reemployment Agreement, they were not subject to the Coal Code. The problem concerned captive mine wage agreements and whether these should be made with the union officials as individuals representing the employees or as officials of the United Mine Workers. The National Labor Board held hearings on H. C. Frick Coke Company and affiliates January 4th and 8th and rendered its decision on January 19th. The Board set up a contract which was a compromise. As to the check-off, the Board declared that the check-off clause in commercial mine agreements should apply to captive operations, but in deference to the operator's contentions added that:

> "nothing in the foregoing shall be construed to deny to any employee not a member of the United Mine Workers the right to make voluntary assignments of his wages for dues or payments to any organization of which he may be a member, or for any other purpose".

The findings in the Frick, National Mining and Sharon Coal & Limestone cases were applied by supplementary order to the Inland Collieries, Consumers Mining, Republic Steel, Allegheny Coal & Coke, Crucible Fuel, Weirton, Shannopin and Vesta Coal cases. (*) The National Labor Board during January also ordered elections to be held at several mines in Western Pennsylvania.

In Illinois violent outbursts in the controversy between the United Mine Workers and the Progressive Miners continued to occur. Especially troublesome was the question of which union should represent the miners for the purpose of collective bargaining. Petitions were received demanding a state wide referendum. The State Legislature also passed a resolution calling for such a referendum under national auspices. The Chairman of the Divisional Coal Labor Board (Division II) declared in May that no authority existed in N.R.A. or the Bituminous Coal Code for a state wide referendum. He held that a vote could be held in determining the relationship between an employer and his men in a given plant but that no authorization existed applying to all employees of all employers in a given industry.

In specific instances, the board ruled that when a contract, arising out of collective bargaining, was in force at a given mine, the contract must continue until its expiration date. Where no such contract existed, an election was authorized to determine the employees' representatives.

A strike for union recognition began in Alabama at two operations on February 19th and spread so that it included approximately 2,000 men in Bibb and Shelby Counties. (**) National Guard troops were ordered into Coleanor, Alabama on February 25th to maintain order. Delegates from 25 locals voted a strike on March 4th at operations in Walker and Jefferson Counties. The strike, at its height, involved over 40 mines and 10,000 men. A wage contract patterned after the Frick agreement was signed March 16th by Alabama operators representing 80 percent of the commercial tonnage in the State. The Division III Labor Board had held by a 2 to 1 decision that the walkout was a violation of the Bituminous Code and had ordered a return to work by March 12th. The contract contained check-off, check-weighmen, and pit committee provisions.

9837 (*) Coal Age, Feb. 1934, p. 82. (**) Coal Age, March, 1934, p. 115.

Labor difficulties in late April and May revolved largely around revisions in the wage rates embodied in the N.R.A. modifying order of April 22nd. Some violent outbreaks occurred in Alabama. The DeBardeleben Coal Corporation, one of the two large companies not parties to the March agreement, signed a contract on May 23rd granting the check-off. (*)

Western Kentucky mines in Hopkins, Webster, Union and Christian Counties, which had shut down in protest to the $4.60 day scale established in the April 22nd order, reopened on May 3rd under the protection of a Federal Court restraining order. The unionized mines in Ohio and Muhlenberg Counties remained closed until May 14th, when a few mines reopened.

Negotiations between Harlan (Kentucky) operators and the United Mine Workers in April failed. This district continued to be troublesome and on May 4th, N.R.A. representatives requested an investigation. No investigation was made for almost a year. (**) The report resulting from this investigation depicts such deplorable conditions as dishonest elections and denial of individual rights and liberties.

In the Southwest, shaft mines remained idle in May, while operators threatened court action and awaited the completion of an N.R.A. investigation whether the $4.35 day scale in the April 22nd order was excessive. Strip mines continued to operate although a strike at the open pits in Minden, Missouri in May evidenced miner discontent.

The Roslyn - Cle Elum field in Washington was affected by a strike call on April 1st made by the Western Miners' Union. The Division V Labor Board declared that any United Mine Workers joining the insurgent union were bound by the contract made by the regular organization.

Statistical Supplement -- Industrial Disputes: The effect of industrial disputes upon the production of bituminous coal is clearly illustrated when monthly production data are plotted against man-days lost per year due to strikes and lockouts. These data, showing the inverse relationship between industrial disputes and production for the period of 1917 - 1936, are set forth in Chart I (Pennsylvania, Ohio, and West Virginia), Chart II (Indiana, Illinois, and Kentucky), and their accompanying tables. The selected states were so grouped as to bring states together which are generally recognized as entering into direct competition with one another. In each chart, two states, usually considered unionized, are compared with a state that has been predominately non-union.

The first major disturbance in the production of coal shown in Chart I occurred during the strike of 1919 which lasted from November 1 to December 12. The strike was effective in most of the important coal producing areas of the United States. It will be noted that in Pennsylvania the monthly production immediately prior to the strike was over 17,000,000 tons. During the strike period this production declined to approximately 7,000,000 tons. In Ohio, for the same period, monthly production decreased from slightly more than 5,000,000 tons to a negligible amount. The production decline in West Virginia was less sharp than in

(*) Coal Age, June, 1934, p. 254.
(**) Report of Governor's Investigation Commission on Harlan County Coal Fields, June 7, 1935.

either Pennsylvania or Ohio. Similarly, the man-days lost due to strikes and lockouts in West Virginia were not as significant as in the other two states. The threat of a suspension of mining activities existed several months prior to the actual strike and monthly production in all three states anticipated the threatened strike. In Pennsylvania the strike was very effective in the organized fields, but did not apply to many of the non-union or captive operations. Ohio, which was a strongly organized state, had an almost complete suspension. Since West Virginia was less unionized than the other states, the strike was less effective there.

Following the depression year of 1921, the threat of a strike in the early months of 1922 was clearly reflected by the sharp rise in monthly production in all three states. On April 1, the suspension took place and it continued to about the middle of August, 1922. The number of man-days lost due to industrial disputes in Pennsylvania during this year amounted to 10,389,000. Despite the fact that the strike call applied primarily to union men, a number of non-union miners in the coking fields in the vicinity of Westmoreland and Somerset also went out on strike. As a result the decrease in production during the strike period is more pronounced in 1922 than in the strike of 1919.

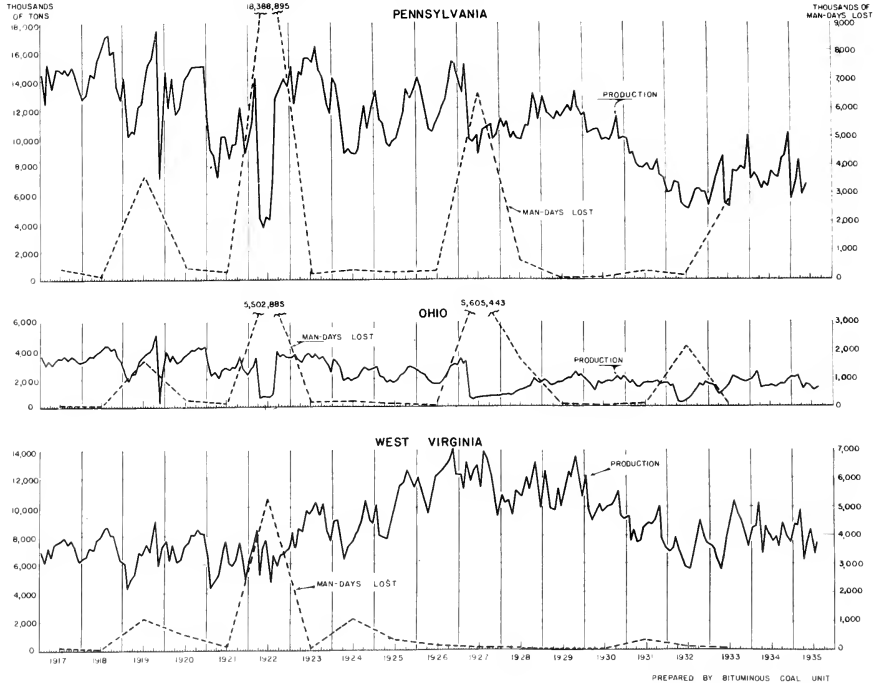
In Ohio the number of man-days lost during the year 1922 amounted to approximately 5,503,000 and the decrease in monthly production is indicated by a decline from over 3,000,000 tons to almost nothing. The man-days lost during 1922 in West Virginia exceeded 5,000,000. The production data, however, do not show a very sharp decline during the strike period. The less sharp decline may be explained by the fact that the strike was effective only in the unionized portions of the state. The non-union areas in West Virginia gained by the strike and exerted all efforts to increase their output.

After 1922, we find no major labor disturbances in Pennsylvania or Ohio until 1927, although some operations in Western Pennsylvania went on a non-union basis after a shut down early in 1925. In West Virginia, however, a more serious labor dispute took place during the year 1924 and continued into 1925. This dispute arose out of the fact that many mining operations were shut down due to the contention of the operators that they were unable to pay the scale of wages set by the Baltimore Agreement (counterpart of Jacksonville) and continue to compete with non-union operators.

The Jacksonville Agreement terminated legally on April 1, 1927, and the failure to arrive at a new wage agreement resulted in a suspension of mining in Pennsylvania and Ohio. The man-days lost in 1927 in Pennsylvania approximated 6,500,000. In Ohio they amounted to 5,605,000. Monthly production declined sharply, indicating the degree to which the suspension was effective. It will be noted, however, that in neither Pennsylvania nor Ohio was the suspension as pronounced during 1927 as in the industrial disputes of 1919 and 1922. The explanation is largely to be found in the disorganization of the union in both areas. The loss of man-days in 1927 in West Virginia was negligible while monthly production rose to a high level, indicating the degree to which West Virginia benefitted from the suspension of mining in the competing States of Pennsylvania and Ohio.

CHART I

MONTHLY PRODUCTION OF BITUMINOUS COAL AND MAN-DAYS LOST PER YEAR DUE TO STRIKES AND LOCKOUTS, SELECTED COMPETING STATES, 1917-1935



SOURCE U.S. BUREAU OF MINES

PREPARED BY BITUMINOUS COAL UNIT
DIVISION OF REVIEW, N.R.A.
UNDER DIRECTION OF F.E. BERQUIST

9837

TABLE I

Monthly Production of Bituminous Coal and Man-days Lost per year due to Strikes and Look-outs in Selected Competing States - 1917-1935.

MONTHLY PRODUCTION

(Production in thousands of net tons)

Year	January	February	March	April	May	June	July	August	September	October	November	December	Total	Man-days Lost on account of strikes
								Pennsylvania						
1917	14,529	12,485	15,479	13,699	14,806	14,885	14,576	14,938	14,315	15,053	14,324	13,359	172,448	544,322
1918	12,705	13,168	14,641	14,288	15,551	15,814	17,052	17,150	15,897	16,038	13,647	12,600	178,551	112,929
1919	14,151	10,034	10,568	10,355	12,252	12,320	14,503	15,183	15,588	17,778	7,115	10,911	150,758	3,765,144
1920	14,788	12,062	14,075	11,765	12,008	13,935	14,359	15,192	15,179	15,966	15,588	15,691	170,608	479,708
1921	11,731	9,100	8,802	7,294	10,016	10,049	8,466	9,463	9,460	12,106	10,633	8,894	116,014	302,525
1922	10,052	11,351	14,121	4,271	3,763	4,406	4,218	6,838	12,712	13,706	14,052	13,658	113,148	18,388,895
1923	14,911	12,300	14,620	14,356	15,685	15,656	15,332	16,370	14,517	14,170	12,222	11,741	171,880	157,130
1924	14,020	13,635	12,239	8,976	9,374	8,922	8,813	9,221	10,638	12,214	10,539	12,043	130,634	361,826
1925	13,336	11,294	10,963	9,514	9,280	9,748	9,995	11,084	11,818	13,497	12,879	13,520	136,928	234,389
1926	14,190	13,537	12,419	10,566	10,388	10,884	11,420	12,155	12,672	14,264	15,405	15,142	153,042	272,918
1927	13,998	13,135	15,044	9,833	9,[illegible]17	10,039	8,853	10,673	10,763	10,860	9,825	10,225	132,965	6,591,870
1928	[illegible],318	10,755	11,053	9,803	10,302	9,936	9,880	10,842	10,721	13,194	12,135	11,[illegible]18	131,202	658,111
1929	12,916	11,718	11,5[illegible]	11,147	11,844	11,447	11,925	12,215	11,806	13,446	12,072	11,477	143,516	4,073
1930	11,759	10,237	10,31[illegible]	10,455	10,494	9,878	9,991	9,737	10,286	11,564	9,833	9,910	124,463	14,689
1931	[illegible],847	8,796	8,858	8,047	7,898	7,884	8,111	7,610	7,660	8,469	7,388	7,091	97,659	398,932
1932	[illegible],329	6,070	6,930	6,732	5,366	5,006	4,969	5,725	6,204	7,574	7,119	6,952	74,776	113,696
1933	6,352	6,060	6,061	5,148	6,036	7,108	8,036	8,743	5,300	5,044	7,776	7,632	79,296	2,896,545
1934	7,904	7,631	10,063	7,073	7,432	7,187	6,387	6,895	6,465	7,693	7,301	7,192	89,223	
1935	8,533	8,621	10,109	5,639	6,918	8,229	5,928	6,776						
								Ohio						
1917	3,572	2,826	3,350	2,915	3,422	3,536	3,540	3,723	3,445	3,700	3,570	3,150	40,749	56,875
1918	3,262	3,381	3,758	3,665	3,990	4,057	4,374	5,399	4,078	4,116	3,501	3,232	45,813	44,837
1919	2,596	1,975	2,208	2,309	3,454	3,705	3,862	3,964	4,310	5,264	178	2,052	35,877	1,717,426
1920	3,976	3,244	3,785	3,164	3,229	3,748	3,861	4,085	4,082	4,293	4,191	4,220	45,878	245,314
1921	2,945	2,208	2,317	2,089	2,787	2,871	2,635	2,881	2,725	3,520	2,770	2,195	31,943	176,605
1922	2,658	2,871	3,534	270	366	354	351	1,632	3,980	3,614	3,761	3,563	26,954	5,502,885
1923	3,567	2,764	3,329	3,113	3,770	3,848	3,559	3,817	3,488	3,675	3,120	2,496	40,546	203,161
1924	3,439	3,234	2,714	1,916	2,081	1,975	2,060	2,171	2,576	2,993	2,603	2,711	30,473	217,752
1925	2,819	2,180	2,143	1,840	1,903	1,889	1,989	2,293	2,470	2,858	2,851	2,799	28,034	170,208
1926	2,630	2,428	2,355	1,908	1,714	1,738	1,762	1,966	2,273	2,843	3,199	3,056	27,872	85,118
1927	3,440	3,053	3,384	570	545	670	624	693	734	738	676	673	15,800	5,605,443
1928	81[illegible]	850	906	844	1,011	1,137	1,284	1,527	1,552	2,050	1,896	1,770	15,641	1,576,760
1929	1,973	1,859	1,563	1,609	1,721	1,795	1,995	2,079	2,068	2,553	2,121	2,353	23,689	46,165
1930	2,078	1,800	1,604	1,667	1,825	1,746	1,844	1,845	1,851	2,194	1,998	2,100	22,552	12,583
1931	1,965	1,673	1,800	1,458	1,473	1,630	1,766	1,747	1,767	1,890	1,596	1,626	20,411	138,155
1932	1,622	1,460	1,587	412	371	421	679	951	1,191	1,705	1,677	1,833	13,909	2,130,292
1933	1,510	1,577	1,390	975	1,206	1,379	1,630	2,246	2,024	1,948	1,897	1,807	19,589	45,942
1934	1,975	2,130	2,525	1,315	1,420	1,470	1,545	1,570	1,427	1,770	1,795	1,900	20,842	
1935	2,064	2,002	2,198	1,113	1,734	1,680	1,075	1,302						
								West Virginia						
1917	6,915	6,118	7,301	6,579	7,576	7,646	7,705	7,905	7,460	7,722	7,394	6,121	86,442	111,479
1918	6,401	6,634	7,375	7,196	7,833	7,965	8,589	8,638	8,007	8,079	6,873	6,346	89,936	42,009
1919	6,010	4,398	4,994	5,437	6,921	6,709	7,540	6,920	7,862	9,083	5,937	7,225	79,036	1,158,094
1920	7,797	6,362	7,422	6,204	6,332	7,350	7,571	8,012	8,005	8,420	8,220	8,276	89,971	511,225
1921	6,532	4,489	4,888	5,356	7,053	7,631	6,021	5,995	6,142	7,526	6,317	4,837	72,787	170,017
1922	6,529	7,229	8,411	5,269	7,199	7,769	4,751	6,745	5,948	6,668	6,881	7,089	80,488	5,348,298
1923	8,310	7,170	8,501	8,272	9,826	9,688	9,938	10,475	9,440	10,320	8,359	7,[illegible]01	107,900	49,587
1924	9,080	9,013	7,914	6,303	7,350	7,539	8,051	8,431	9,168	10,639	9,192	8,983	101,663	1,060,478
1925	10,135	8,026	7,911	7,872	9,017	9,861	10,580	11,529	11,674	12,541	11,828	11,407	122,381	376,399
1926	12,008	11,000	10,615	9,508	10,853	2,127	12,245	12,577	12,742	13,379	14,088	12,367	143,509	126,242
1927	12,373	11,310	13,270	11,832	12,718	12,082	11,321	13,930	13,496	12,185	10,342	9,363	145,122	47,548
1928	10,950	10,297	10,449	9,360	11,308	11,021	10,765	12,041	11,366	13,396	12,004	9,995	132,95[illegible]	18,650
1929	12,660	11,227	9,969	9,824	11,363	11,006	11,547	12,587	12,016	13,605	11,876	10,739	138,519	a/
1930	12,281	9,898	9,010	9,766	10,203	9,732	10,024	10,157	10,638	11,248	9,434	9,102	121,473	13,215
1931	9,331	7,7[illegible]	8,404	7,501	7,705	8,684	8,925	8,843	9,188	10,082	7,856	7,166	101,473	393,883
1932	6,884	7,107	7,932	6,398	6,292	5,334	5,781	6,492	7,602	9,001	7,866	7,420	85,609	44,307
1933	7,269	7,069	6,255	5,512	6,581	7,844	9,254	10,570	9,583	9,039	8,010	7,358	94,344	50,929
1934	8,[illegible]14	8,620	10,382	6,662	8,[illegible]54	8,079	7,[illegible]35	7,802	7,365	8,819	7,935	7,523	98,190	
1935	[illegible]72	8,755	9,800	6,368	7,58[illegible]	8,59[illegible]	6,7[illegible]	594						

A slight rise in the number of man-days lost due to strikes and lockouts occurred during 1931 in both Pennsylvania and West Virginia. This rise reflects scattered and sporadic labor disturbances in the vicinity of the Fairmont field in West Virginia and in the Western Pennsylvania district. In a large part these disturbances grew out of the discontent existing among the miners because of low wage rates and threatened reductions in wages, as well as the lack of employment accompanying the general depression existing throughout the country.

In Ohio in 1932 a similar situation arose. Man-days lost due to strikes and lockouts mounted in excess of 2,000,000 and production declined sharply. The labor dispute was not successful in averting wage reductions nor in securing a collective bargaining agreement.

The sharp rise in the loss of man-days during the summer months of 1933 in Pennsylvania is a part of the discussion of collective bargaining under N.R.A. and will be treated in Chapter VI.

The statistical data on monthly production and man-days lost due to strikes and lockouts during the period 1917 - 1935 for Indiana, Illinois, and Kentucky are set forth in Chart II and Table II. These three states compete directly with one another. Indiana and Illinois represent highly organized areas, while Kentucky (except for Western Kentucky up to 1925) is predominately non-union.

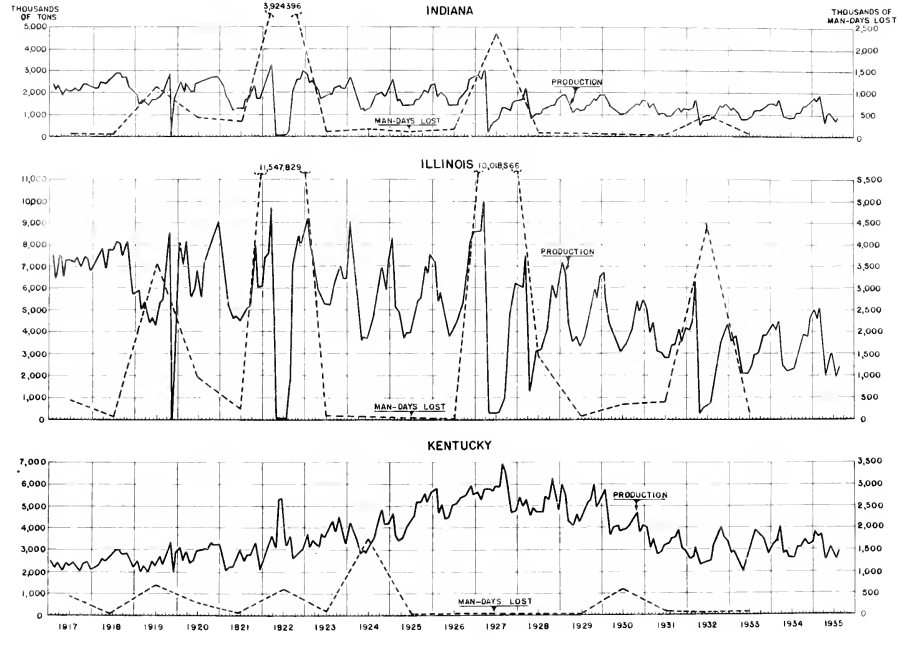
During the strike of 1919 production in Indiana and Illinois declined almost to zero, while in Kentucky any loss in tonnage due to striking union labor in Western Kentucky is concealed by the increased output in non-union Eastern Kentucky which produces the major portion of the state's tonnage. It should be noted that in consequence of the strike threat production mounted rapidly immediately prior to the effective date of the strike. Indeed, monthly production in Illinois increased from slightly over 4,000,000 tons in the middle of 1919 to over 8,500,000 tons during October, 1919. One may also observe that with the ending of the strike and the resumption of mining activities, production hit a relatively high point, indicating efforts to recoup the losses that occurred during the strike period.

The great industrial dispute of 1922 is clearly reflected in the production data for Indiana and Illinois where effective union organization brought a complete suspension of mining activities. The sharply curtailed production is reflected in the increased number of man-days lost during the year, in Illinois amounting to 11,548,000 and in Indiana approximately 3,924,000. During the same period, Kentucky production increased from approximately 3,000,000 tons a month to over 5,000,000 tons. This increase is explained by the fact that the organized miners in Western Kentucky worked under a no-strike agreement and therefore continued to produce tonnage which replaced much of that lost in Indiana and Illinois. In the non-union fields of Kentucky production continued at an even greater rate during and because of the strike in the contiguous states of Indiana and Illinois.

The next industrial dispute as reflected in lost man-days occurred in Kentucky in 1924. This situation arose out of the contention that the operators were no longer able to pay the wage scale specified in contract

CHART II

MONTHLY PRODUCTION OF BITUMINOUS COAL AND MAN-DAYS LOST PER YEAR DUE TO STRIKES AND LOCKOUTS, SELECTED COMPETING STATES, 1917–1935



SOURCE: U. S. BUREAU OF MINES

PREPARED BY BITUMINOUS COAL UNIT
DIVISION OF REVIEW, N.R.A.
UNDER DIRECTION OF F.E. BEROUIST

(Same Title as in Table I)

TABLE II

Illinois

1917	7,493	6,460	7,478	6,538	7,355	7,315	7,232	7,400	7,047	7,551	7,450	6,880	86,199	464,511
1918	7,150	7,419	7,803	6,888	7,762	7,767	8,240	8,149	7,630	8,226	6,516	5,741	89,291	74,850
1919	5,917	5,022	5,256	4,485	4,676	4,395	5,271	5,517	6,833	8,515	13	4,963	60,863	3,558,094
1920	8,155	7,118	8,257	5,668	6,061	6,887	5,600	7,237	7,539	8,363	8,729	9,111	88,725	948,408
1921	[illegible],264	5,661	5,293	4,625	4,781	4,569	4,794	6,135	6,263	8,022	6,056	6,140	69,603	226,112
1922	7,330	[illegible],650	9,750	28	27	34	33	1,770	7,108	8,428	7,931	8,378	58,467	11,547,829
1923	9,256	[illegible],938	7,576	5,983	5,666	5,386	5,284	5,973	6,424	7,014	6,416	6,394	79,310	95,458
1924	9,176	7,195	5,647	3,649	3,700	3,654	4,074	4,729	6,285	6,968	5,925	7,321	68,323	50,101
1925	8,340	5,157	4,949	3,755	3,966	3,908	4,431	5,431	5,518	7,048	5,745	7,661	66,909	25,180
1926	7,200	5,399	5,868	4,808	3,857	4,127	4,383	4,927	5,392	6,648	8,114	8,644	69,367	12,609
1927	8,615	3,726	10,036	227	227	245	358	710	1,006	4,823	5,638	6,237	46,848	10,018,566
1928	6,139	5,974	7,522	1,316	2,797	3,108	3,233	3,844	4,227	6,103	5,581	6,104	55,948	1,463,409
1929	7,202	6,707	4,411	3,647	3,847	3,423	3,885	4,521	4,915	5,906	5,585	6,609	60,658	68,155
1930	6,841	4,943	4,285	3,801	3,461	3,141	3,392	3,813	4,137	5,433	4,941	5,543	53,731	348,779
1931	5,092	3,930	4,443	3,137	3,053	2,842	2,863	3,415	3,470	4,187	3,631	4,240	44,303	397,263
1932	4,118	4,470	6,388	373	548	633	797	1,779	2,555	3,554	3,890	4,370	33,475	4,397,006
1933	3,633	3,784	3,337	2,185	2,125	2,150	2,496	2,912	3,030	3,875	3,836	4,050	37,413	130,197
1934	4,355	4,158	4,495	2,474	2,237	2,228	2,340	2,920	3,428	3,847	3,720	4,702	40,905	
1935	5,077	4,590	5,094	2,013	2,558	3,052	1,989	2,418						

Indiana

1917	2,399	2,098	[illegible]	1,886	2,232	2,088	2,114	2,190	2,099	2,378	2,425	2,339	26,539	74,695
1918	[illegible]	[illegible],264	[illegible]	2,454	2,672	2,717	2,929	2,946	2,731	2,756	2,344	2,164	30,679	51,015
1919	[illegible]	1,528	[illegible]	[illegible]	1,753	1,709	1,856	2,004	2,353	2,923	11	1,755	20,912	1,135,013
1920	[illegible]	2,075	[illegible]	2,024	2,066	2,398	2,470	2,614	2,611	2,747	2,681	2,700	29,351	411,991
1921	2,354	[illegible],800	[illegible]	1,239	1,309	1,318	1,252	1,743	1,770	2,349	1,685	1,743	20,319	321,593
1922	2,373	2,634	[illegible]	8	16	13	20	364	2,166	2,598	2,628	3,004	19,133	3,924,396
1923	2,890	2,439	2,586	2,089	1,725	1,802	1,878	1,927	2,226	2,337	2,188	2,142	26,229	104,604
1924	2,685	2,326	1,823	1,184	1,341	1,247	1,350	1,506	1,921	2,030	1,799	2,263	21,480	159,743
1925	2,638	[illegible],633	1,697	1,384	1,349	1,355	1,440	1,625	1,671	2,104	1,992	2,337	21,225	96,963
1926	2,393	1,759	2,010	1,707	1,377	1,347	1,416	1,756	1,907	2,164	2,649	2,701	23,186	179,375
1927	2,806	2,645	3,070	196	529	774	892	1,333	1,359	1,238	1,495	1,599	17,936	2,345,279
1928	1,655	1,711	2,160	806	921	1,008	1,020	1,207	1,277	1,424	1,456	1,728	16,379	91,842
1929	1,909	1,926	1,524	1,114	1,329	1,206	1,277	1,385	1,464	1,713	1,587	1,910	18,344	58,553
1930	1,874	1,575	1,375	1,243	1,161	1,029	1,055	1,192	1,322	1,564	1,460	1,640	16,490	32,003
1931	1,627	1,275	1,495	1,061	1,057	1,013	935	998	1,089	1,302	1,122	1,321	14,295	14,181
1932	1,259	1,338	1,748	566	717	774	744	810	1,092	1,419	1,374	1,483	13,324	507,051
1933	1,250	1,290	1,070	850	838	850	955	1,173	1,132	1,360	1,460	1,533	13,761	48,210
1934	1,549	1,454	1,722	1,004	856	733	837	1,072	1,136	1,403	1,392	1,610	14,820	
1935	1,792	1,713	1,916	718	1,081	1,198	675	909						

Kentucky

1917	2,568	2,259	2,455	2,137	2,369	2,343	2,388	2,182	2,042	2,378	2,541	2,126	27,808	425,725
1918	2,253	2,335	2,594	2,529	2,753	2,799	3,018	3,035	2,813	2,840	2,415	2,229	31,613	15,318
1919	2,542	2,060	2,259	2,123	2,502	2,303	2,717	2,369	2,774	3,371	2,044	2,972	30,036	696,165
1920	3,093	2,524	2,944	2,461	2,512	2,916	3,003	3,178	3,176	3,340	3,261	3,283	35,691	312,460
1921	2,776	2,183	2,268	2,226	2,754	2,944	2,535	2,801	2,842	3,314	2,861	2,084	31,588	64,448
1922	2,896	3,215	3,608	3,171	5,335	5,482	3,296	3,627	2,662	2,876	2,937	3,029	42,134	605,441
1923	3,714	3,118	3,488	3,284	3,777	3,657	3,902	4,303	3,892	4,513	3,847	3,282	44,777	92,035
1924	4,345	4,052	3,640	2,844	2,995	2,940	3,290	3,562	4,201	4,806	4,254	4,278	45,147	1,735,739
1925	4,769	3,655	3,431	3,502	4,008	4,269	4,572	5,215	5,281	5,541	5,280	5,606	55,069	162,534
1926	5,803	4,781	5,061	4,471	4,531	5,019	5,139	5,393	5,583	5,715	5,914	5,514	62,924	13,170
1927	5,683	5,307	5,886	5,826	5,785	5,932	5,899	6,911	6,597	5,789	4,727	4,782	69,124	24,756
1928	5,404	5,045	5,303	4,579	4,904	4,709	4,753	5,472	5,349	6,220	5,333	4,789	61,360	14,124
1929	6,028	5,564	4,298	4,106	4,674	4,395	4,702	5,186	5,289	6,016	4,942	5,262	60,462	4,286
1930	5,777	4,564	3,732	4,028	4,098	3,798	3,697	4,102	4,455	4,755	3,882	4,121	51,209	562,067
1931	3,999	3,129	3,495	2,884	2,992	3,213	3,284	3,506	3,590	3,858	3,047	2,967	39,964	59,240
1932	2,600	2,669	3,141	2,212	2,321	2,370	2,478	3,160	3,455	4,007	3,489	3,398	35,300	30,725
1933	2,828	2,989	2,441	2,023	2,420	2,804	3,376	3,968	3,783	3,540	3,146	2,781	36,099	69,037
1934	3,240	3,428	4,039	2,820	2,929	2,684	2,672	3,128	3,116	3,456	3,260	3,296	38,068	
1935	3,813	3,596	3,755	2,521	2,903	3,113	2,525	2,985						

a/ No strikes reported.

Source: U. S. Geological Survey and U. S. Bureau of Mines.

Prepared by Bituminous Coal Unit
Division of Review, N. R. A.
Under direction of F. E. Berquist

for 1923 - 1925. Considerable discontent developed among the organized miners and in many instances mines were shut down to be reopened later upon an open shop basis. After 1925 the State of Kentucky as a whole was almost entirely non-union.

The period 1924 - 1927 shows very few man-days lost in Indiana and Illinois. The explanation for this situation is to be found in the Jacksonville Agreement which was in effect during this period and which represented a joint agreement between miners and operators.

The next indication of labor unrest is found in 1927. On April 1st of that year the Jacksonville Agreement terminated and the conference held in Miami which sought to negotiate a new agreement ended in failure. The organized miners in Indiana and Illinois suspended work on April 1st on the basis that they had no contract. The industrial dispute lasted from April 1st to September and into October. As a result, for the year 1927 man-days lost in Indiana approximated 2,500,000 and in Illinois exceeded 10,000,000. In Kentucky, to the contrary, man-days lost were negligible and production rose sharply. Non-union Kentucky gained in production during the dispute period at the expense of the neighboring organized states. The termination of the strike in 1927 came with a "truce" agreement for Indiana and Illinois which provided for a continuation of the previous contract wage until April 1, 1928. It will be noted, therefore, that early in the year 1928 production in both Indiana and Illinois increased, anticipating the possibility of a strike with the termination of the "truce" agreement. While the new wage agreement was made in 1928, there were scattered interruptions but no major dispute equivalent to those of 1919, 1922 and 1927.

The next sharp rise in man-days lost occurs in Illinois in 1932 and to a lesser degree in Indiana. To a large extent this loss is attributable to the ending of wage agreements in both states and the development of new wage contracts. The loss in man-days and in production during this period was also due in part to the refusal of some miners in Illinois to accept the reduced wage scale in the new United Mine Worker Contract.

The data presented in Chart III and Table III illustrate graphically the effect of the three major strikes on production for selected competing states. The production data for the strikes of 1919 (November and half of December), 1922 (April to August), and 1927 (April to September) are compared with that of the comparable months in the base years of 1918, 1920 and 1925.(*) The losses and gains in production during the strike periods are indicated by percentage deviations from the base line.

During the 1919 strike, Illinois, Indiana, Ohio, Pennsylvania, and West Virginia showed losses in production, while for the same period Virginia and Kentucky showed gains. The percentage losses in production

(*) Each base year was selected with the view toward its representativeness and freedom from disturbing factors. The year 1918 was chosen, even though production was subjected to war time demand, because it was a full year of government regulation and continuous production. The choice of 1920 as a base year rests on the assumption that it was more representative than the depression year of 1921. The year 1925 was chosen as being closest to the strike year 1927 without having a disturbing element as the British strike in 1926.

TABLE III

EFFECT OF STRIKES ON PRODUCTION FOR SELECTED BITUMINOUS STATES

IN IMPORTANT STRIKE YEARS

(000's omitted)

(Bituminous Coal Industry).

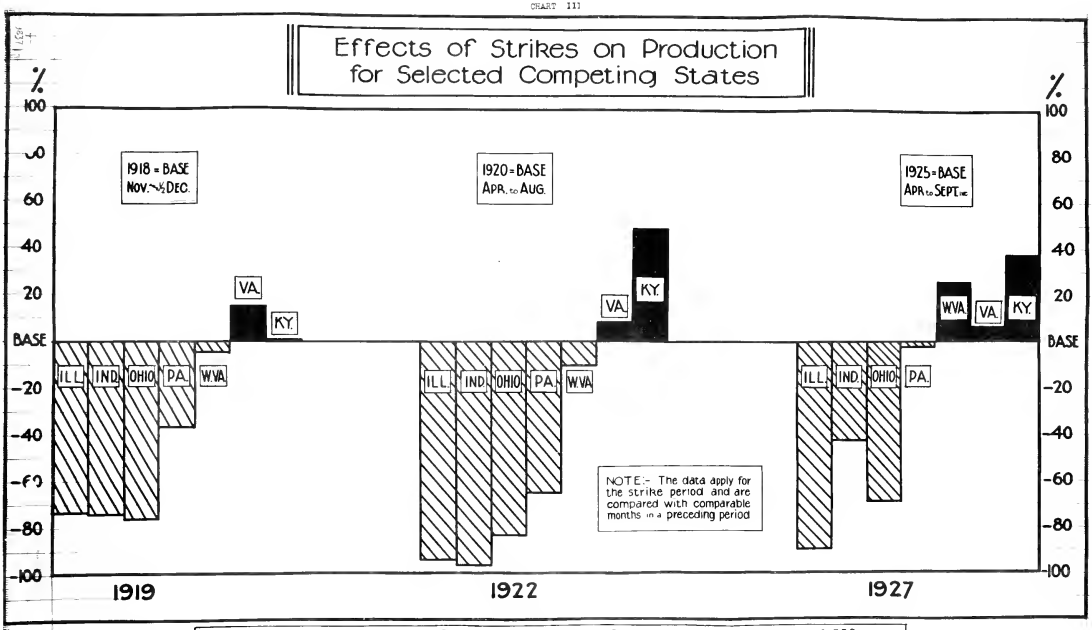
	1918 November &	1919 1/2 Dec.	% Increase or Decrease	1920 April to	1922 Aug.Inc.	% Increase or Decrease	1926 April to	1927 Sept. Inc.	% Increase or Decrease
Illinois	9367	2485	- 73.4	31453	1892	- 94.0	27009	2773	- 89.7
Indiana	3426	889	- 74.1	11572	421	- 96.4	8824	5083	- 42.4
Ohio	5117	1204	- 76.5	18087	2973	- 83.6	12384	3836	- 69.0
West Va.	10046	9550	- 4.9	35469	31733	- 10.5	60533	76279	+ 26.0
Kentucky	3529	3530	+ 0.3	14070	20911	+ 48.6	26847	36950	+ 37.6
Pennsylvania	19947	12571	- 37.0	67259	23496	- 65.1	61439	59878	- 2.5
Virginia	1137	1316	+ 15.7	4486	4854	+ 8.2	6267	6879	+ 6.6

Source: U.S. Bureau of Mines

Prepared by Bituminous Coal Unit
Division of Review N.R.A.
Under Direction of F. E. Berquist.

CHART III

Effects of Strikes on Production for Selected Competing States



SOURCE:- U.S. Bureau of Mines. Prepared by Bituminous Coal Unit, Division of Review, N.R.A. under the direction of F.E. Berquist.

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in Illinois approximated 73.4; in Indiana, 74.1; and in Ohio, 76.5. In Pennsylvania the loss amounted to 37.0 percent, and in West Virginia it amounted to only 4.9 percent. The losses in Illinois, Indiana and Ohio were more pronounced than in Pennsylvania and West Virginia because the former states were more highly unionized and suspensions were therefore more complete. Virginia tonnage, during the strike period, gained 15.7 percent and Kentucky, despite the fact that the Western Kentucky field was organized, gained 0.3 percent. Virginia, being completely non-union in character, worked at capacity and took advantage of the situation existing in the strike areas.

In the strike of 1922, the percentage loss in production in Illinois was 94.0; in Indiana, 96.4; in Ohio, 83.6; in Pennsylvania 65.1; and in West Virginia 10.5. It will be noted in this instance that all the areas show increased strike effectiveness during 1922 as compared with 1919. (*) Again the States of Virginia and Kentucky show tonnage gains during the strike period. Virginia gained 8.2 percent while Kentucky, where organized labor continued to work under their contract, gained 48.6 percent in production.

The strike of 1927 was not as effective as that of 1922. Illinois showed a loss of 89.7 percent in production. Indiana showed a loss of 42.4 percent and Ohio 69 percent, while Pennsylvania's loss amounted to only 2.5 percent. The striking decrease in Pennsylvania strike effectiveness is largely explained by the increase of non-union operations in that State. West Virginia, which had normally shown losses during strike periods, in 1927 showed a gain in production amounting to 26 percent. In this instance, again the explanation lies in West Virginia having become a non-union State. Virginia's gain in production was 6.6 percent and Kentucky gained 37.6 percent.

(*) The significant increase in strike effectiveness in Pennsylvania during 1922 is to be attributed to the walkout of non-union men at the captive operations in the western portion of the state.

2. CONDITIONS OF EMPLOYMENT

Introduction: A great variety of factors influence the conditions of employment in the Bituminous Coal Industry. Some of these factors are natural in character, while others are social or institutionalized. For example, coal mining must necessarily take place where coal deposits occur. It, therefore, follows that in many instances mining communities will be located in isolated mountainous areas, often far from any normal center of population. Mine workers frequently are located in communities which are unincorporated and where all the property is owned by the operating company. Opportunities to live in houses or trade in stores not owned by the company are often not available. In the mountainous or isolated areas, opportunity to engage in collateral employment does not exist so that the miner perhaps more than in any other occupation is wholly dependent upon the employer. Thus, it is not surprising that to many investigators the company town takes on the appearance of a feudal estate.1/ Where the employer maintains his own police force and owns every square foot of land, as well as the houses and stores, and where he controls all work opportunity and may even dominate the school and church, the characteristics of a feudal domain become evident. The character and policy of the employers under these circumstances, become especially significant for the miner.

Certain practices have developed in the coal mining industry which through custom and habituation have come to be recognized in the unionized areas as requisites of employment. The method and manner of payment and the deductions from the miners' pay have become traditional in certain areas. The union in its collective bargaining process and in the wage agreements has recognized this situation. Many wage contracts go into considerable detail as to checkweighmen, pay periods, scrip payment, the check-off, company house rent, pay deductions, etc. These aspects of the industry as they affected the operator-miner relations will be set forth in the following pages.

Method and Manner of Payment: Weighing and Measuring -- (Checkweighmen)

The three basic occupations in bituminous coal mining are those of hand or pick miners, machine miners (cutters), and hand loaders. They represent between 60 and 65 per cent of all the wage earners in the industry.1/ These occupations are usually paid a rate per ton of 2,000 pounds, run of mine. These men are known in the industry as tonnage men in contrast to the day men whose pay is based upon a daily rate. Since payment is made on a per ton basis, it becomes necessary that the measurement of the work performed be demonstrably accurate. This requirement is significant also in view of the fact that cars are counted or weighed on the surface at some distance from the miners' working places. Similarly, yardage and deadwork sometimes referred to as non-productive labor requires careful measurement. The question of weighing and measuring work performed gave rise to frequent complaint and labor discontent. Where cars are counted rather than weighed, the lack of uniformity in

1/ U.S. Coal Commission, Part 1, p.162; Report on Special Policing in Industry in Pennsylvania, p.3.

1/ U.S. Coal Commission, Part III, p. 1318.
Reports to N.R.A. ("C" Form of Coal Section) show that in the period December 1-15, 1933, 61% of all men employed were paid by the ton.

the size of the car led to many abuses or the suspicion of abuses. Another cause of dispute between the miners and operators was the screened method of payment. "It was claimed by the miners that the payment of wages based on the amount of coal which would pass over screens of a certain mesh and area was subject to abuse. The area in square feet varied; the size of the mesh was not uniform; spreaders placed on the screens broke up the coal and made a disproportionate amount of fine coal pass through the screens; and the screens were not kept in repair." 1/ The miners demanded payment on a run-of-mine basis-coal as it came from the mine including lump and fine coal without any preparation. In 1916 the run of mine basis of payment went into effect for the entire Central Competitive field although Illinois had been paying on this basis prior to 1916. This situation was of long standing, although the unionized areas were able to bring about improvement. An illustration of the conditions which existed in the latter quarter of the 19th Century may be quoted here:

> "False weights were used. Large wagons, or pit-cars, were frequently put in , containing more coal than served as a basis of payment to the miners; and, in many instances, a widening of the spaces in the screens was resorted to, allowing an extra amount of coal to pass through for which the miner received nothing. So flagrant had these abuses become that in Illinois, Ohio, and Pennsylvaniathe miners sought redress through legislation which should require payment by run of mine or gross weight. Such a law was passed in Illinois in June, 1897; and, later, similar laws were passed in Ohio and Pennsylvania." 2/

Short-weighting was not only unfair to labor, but it also represented an unfair competitive advantage among operators. Thus for example, an operator -- Col. W. P. Rand - was a leader in the establishment of the checkweighman system in the Hocking Valley coal fields of Ohio in 1880.(*)

Disputes over weights in the union fields have largely disappeared, owing to the universal practice of providing for a checkweightman and the constant watchfulness to insure the accuracy of the scales. A typical example of a clause dealing with the checkweightman in a union contract is as follows:

> "Checkweighman selected as required by law from among employees at the mine, may be placed on each tipple at the expense of the miners, and their duties shall be only those prescribed by the laws of the State of West Virginia. No checkweighman shall be placed on any tipple except where same is selected by ballot by a majority vote of the miners working

1/ Suffern, A. E., "The Coal Miners' Struggle for Industrial Status," p.15.
2/ George, J. . "Settlement in the Coal-Mining Industry", Quarterly Journal of Economics, Vol. 12 (1897-1898), p.448
(*) Evans, Chris, History of the United Mine Workers of America, Vol. I, pp.91-93

> in said mine, Checkweightmen shall in no way interfere with the working force or the operation of the mine and shall be subject to all the penalties provided in this scale contract against other members of the working force." 1/

The use of checkweighmen was not confined only to the union fields. In some instances, non-union operators allowed checkweighmen at the mines, but this measure was not generally true. During the 1920's, as the union lost strength, the loss of checkweighmen in the formerly union areas was keenly felt. This need was recognized in the Bituminous Coal Code, Article V b), wherein provision was made for checkweighmen.

Pay Periods: The matter of pay periods is quite important to the miners and also has some significance for the operating company. In the earlier days of the coal mining industry, it was fairly common to pay miners once a month. The relatively long interval between pay led to considerable hardships among miners. Miners, lacking in foresight and neglecting budgeting, often found that they lacked sufficient funds to carry them to the next pay. As a result, these miners were compelled to seek advances against their pay. In such instances a condition of perpetual indebtedness developed which tended to bind the miner to the operator and to restrict his freedom. Where the company paid in scrip, the miner's pay advance was discounted so that his earnings were reduced. In those areas where the company operated stores in competition with independent enterprises, the miner who received an advance felt influenced to trade at the company store. The length of time between pay therefore served to augment the operator's profit at the company store.

In the union areas considerable agitation developed for more frequent pay periods.(*) Semi-monthly pay periods have become increasingly characteristic of the industry. (See Table I) As a result, many of the conditions described above have been alleviated. The Bituminous Coal Code specifically provides for semi-monthly payment of wages. (Article V (c)).

Another practice, quite common in both union and non-union fields, was to hold back a miner's pay for the initial pay period. (See Table II). Although the miner could claim this pay for work performed, the operator could hold the wage reserve over the miner's head and threaten its loss to the miner where the miner's action was against the interests of the company. It must also be remembered that a lengthy pay period and a wage hold-back worked in favor of the operating company since additional funds were available to it.

1/ Agreement between Northern West Virginia Coal Operators' Association and District No. 17, United Mine Workers of America, February 10, 1923.

(*) Evan, Chris, History of United Mine Workers of America, Vol. II, pp. 120-121; Illinois Weekly Pay Fair, 1891

Table I

Length of Pay Period of Parent Companies as Shown by Reports of Company Stores in the Bituminous Coal Industry, by States in 1934 1/

State	Total	Number of Stores Whose Parent Companies Had Specified Length of Pay Period: One week	Two Weeks	Semi-monthly	Three weeks	Monthly
Alabama	37		30	7	-	
Colorado	5		1	4		
Illinois	4		4	-		
Kentucky	100		83	17		
New Mexico	5		5	-		
Ohio	9		7	2		
Pennsylvania	161		82	79		
Tennessee	13		8	5		
Utah	6		4	2		
Virginia	33		18	15		
Washington	6		-	6		
West Virginia	263		209	52		2
Wyoming	8		2	6		
All others	8		5	3		
	658		458	198		2

1/ Derived from Table 17 (p.116), The Economic and Social Implications of the Company Store and Scrip System, N.R.A., 1934, Based on Questionnaire of the Bureau of Census.

Table II

Number of Days for Which Wages are Withheld by Parent Companies as Shown by Reports of Company Stores in the Bituminous Coal Industry, by States in 1934 1/

		Number of Stores Whose Parent Companies Withheld Pay for Specified Number of Days							
	Total	0 days	1-3 days	4-7 days	8-11 days	12-15 days	16-21 days	22-28 days	Over 28 days
Alabama	37	-	-	13	11	13	-	-	
Colorado	5	1	-	1	1	2	-	-	
Illinois	3	-	-	-	-	3	-	-	
Kentucky	96	1	-	4	20	70	1	-	
New Mexico	5	-	-	-	1	4	-	-	
Ohio	9	-	-	-	5	4	-	-	
Pennsylvania	154	1	3	7	66	76	2	-	
Tennessee	12	-	-	-	1	11	-	-	
Utah	6	-	1	2	2	1	-	-	
Virginia	33	-	-	-	8	25	-	-	
Washington	6	-	-	-	-	6	-	-	
West Virginia	256	4	2	4	105	128	10	-	
Wyoming	8	-	-	-	-	8	-	5	
All others	8	-	-	2	3	3	-	-	
Total	638	7	5	33	221	354	13	5	

1/ Derived from Table 17 (p.116), The Economic and Social Implications of the Company Store and Scrip System, op. cit.

Deductions from Wages: It is a custom of long standing in the coal mining industry (both union and non-union areas) for operators to make certain deductions from the wages of miners. These deductions fall into two general classes - those for occupational charges and those for domestic or personal charges. The former class includes charges for blacksmithing, powder, dynamite, electric exploders, fuse, caps, carbide, lamp, oil, machine oil, and payment for the wages of a checkweighman. The second group includes charges for household coal, rent, bills at the company store, and in some instances, charges for the support of the doctor, hospital, school, and bathhouse.

The agreements made in the union areas usually specify the nature and the amount of the deductions which may be made. Since these provisions are fixed by bargaining between the union and the operator, they have ceased to be factors of discontent.

In the non-union areas these deductions are often referred to as the operators' check-off because the charges are fixed by the operator. It was frequently asserted that the operator made an undue profit on the supplies furnished and that the charges for services were excessive. Miners in many cases objected to making compulsory contributions for the upkeep of recreation halls, bathhouses, and hospitals which were normally maintained by employers in other industries without charge to the employees.

The deductions for occupational expenses differed with the various occupational groups. For example outside daymen have no charges, while inside daymen's charges were found to be seldom in excess of 1 per cent of the gross earnings (normally from one-half of 1 per cent to one per cent). 1/ Deductions for occupational supplies for machine runners generally averaged about 1¼ per cent of the gross earnings. Pick miners and loaders are the ones most affected by occupational charges. Since these workers represent approximately 55 per cent of the total number of employees engaged in coal mining, it can be seen that these deductions become quite significant. 2/ Pickminers pay for blacksmithing and for powder, carbide, caps, and other supplies. Where the blacksmithing charge is made at a flat rate of 25 or 50 cents a month, the burden decreases with increasing tonnage output but during a period of few tipple starts this charge may be excessive. Some mines base the blacksmithing charge on tonnage or each dollar earned. Occupational items usually cost the pick miner or loader 5 to 10 per cent of his gross earnings. 3/

Differences in occupational expenses are not due primarily to the differences in charges for supplies. For example, the powder cost will differ with the shooting qualities of the coal and the methods of mining. At some mines certain expenses are borne by the company.

1/ U. S. Coal Commission, Part III, p. 1243.
2/ Based upon reports to N.R.A. ("C" Form of Coal Section) covering 254,136 employees for December 1-15, 1933.
3/ U. S. Coal Commission, Part III, p. 1243

Again, some companies may pay "tonnage" men on a day basis and furnish them with supplies. This situation is, however, not common in the industry.

One type of deduction has not been discussed here previously. This deduction, known as the "check-off", has been the subject of considerable controversy and deserves separate treatment. The check-off is a system whereby the operator deducts or checks off from the miners' wages his union dues and assessments, turning over the money thus collected to a representative of the union. Under this system the union miners authorize the employer to deduct from their pay the employees' financial obligations to the union, which usually include national and local dues, special assessments, and fines.

The check-off is said to have originated in Indiana in 1866, its purpose being to eliminate disturbances which usually accompanied pay day. 1/ Prior to this time a committee of miners stationed itself at the mouth of the shaft to collect dues from incoming men. Individuals, refusing to pay, were subjected to severe criticism and in some instances, union men refused to enter the mines with non-payers.

Several factors have contributed to the controversy concerning the check-off. The operator objects to acting as a collecting agency for the union. Originally the check-off system was used only for dues, but it was gradually extended to include fines and special assessments, the latter usually for strike funds. Thus, the operator felt that he was directly providing the weapons which might later be used against him. Non-union operators argued that union operators conspired with the union to organize non-union fields by agreeing to the check-off. 2/ Similarly, while the check-off bears no essential or necessary relationship to either the open or closed shop, it has often actually resulted in a closed shop, shutting out non-union miners.

It has been stated that a universal check-off system is unsound from the standpoint of long-time union policy on the grounds that it weakens union stamina and lessens close contact with union men. 3/ Be that as it may, the check-off system insures to the union a steady and, within limits, definite income. In the bituminous fields the check-off has become an established institution.

With the advent of the N.R.A., the United Mine Workers made great gains in the unionization of coal fields. The check-off, usually with a protective clause, was included in one form or another in the majority of the new wage agreements and was included in all the old. The following areas agreed to the check-off: 4/ Arkansas-Oklahoma; Northern Colorado; Southern Colorado (including Colorado Fuel and Iron Agreement);

1/ Emmet, Boris, Labor Relations in the Fairmont, West Virginia, Bituminous Coal Field, U.S. Bureau of Labor Statistics, July, 1924, p. 6.
2/ Gosaway vs. Borderland Coal Corporation, U. S. Circuit Court of Appeals, Seventh Circuit, 1921 -278 Fed. 56.
3/ U. S. Coal Commission, Part III, p. 1537.
4/ Union Gains - Establish Collective Bargaining in Almost All Bituminous Fields, Coal Age, March, 1934.

Kansas-Missouri; Illinois; Indiana; Appanoose and Wayne Counties, other Iowa; Big Sandy-Elkhorn; Hazard; Harlan; Southern Appalachian; Western Kentucky; Michigan, Ray and Clay Counties (Missouri); Montana; Hocking, Coshocton, Massilon, Eastern Ohio; Central Pennsylvania; Somerset County (Pennsylvania), Western Pennsylvania; Utah; Virginia; Washington; Greenbrier, Kanawha, Logan, New River, Pocahontas - Tug River; Williamson; Winding Gulf; Northern West Virginia; Northern West Virginia Panhandle; Southern Wyoming (including Union Pacific Coal Company Agreement), and Northern Wyoming.

No check-off provisions were included in the following agreements: Southern Tennessee; Tennessee-Georgia; Georges Creek-Upper Potomac.

The check-off clause usually specifies that the employees must notify the mine management in writing that they are agreeable to the wage assignment.[1] In the case of the Southern Appalachian Agreement, provision is made that the United Mine Workers will defend and protect the operator against expenses, repayments or losses on account of contention that the check-off was wrongful or illegal

Although the Bituminous Coal Code in N.R.A. did not specifically mention the check-off, it did provide that any deductions from employees' pay, if not a matter of agreement, must be in conformity to the general rules and regulations prescribed by the Administrator. (Article V, (c)).

A comparison of some contract provisions dealing with occupational and personal expenses, check-off, checkweighmen and pay days is shown in Table III.

Scrip Payment: The practice of scrip payment in the bituminous industry has long been a subject of complaint. Since payment in scrip, made in the form of trade checks, coupons or tokens, is usually taken out in merchandise, numerous abuses may arise. The most common abuses are the discounting of scrip by company stores or individuals and the limitation of the employee's trade to the company store. As a result regulatory or prohibitary legislation was enacted, seeking to control the issuance of scrip and the practices of the company store. Maryland enacted a regulatory statute in 1868. Four years later Pennsylvania passed a statute attempting to control wage payments, scrip issuance and company store practices in the coal mining industry.[2] During the decade of the eighties, twelve states, among which were Tennessee, West Virginia, Ohio, Kansas and Washington, passed similar legislation. At present 32 states have laws relating to company stores.

1/ Wage Agreements in Bit. Coal Industry in 1934. U.M.W., p.134

2/ The Economics and Social Implications of the Company Store and Scrip System, N.R.A., November 16, 1934, p.18

Table III

COMPARISON OF PROVISIONS IN SELECTED CONTRACTS WHICH AFFECT CONDITIONS OF EMPLOYMENT 1/

PERSONAL EXPENSES

	House Coal	House Rents	House Lights	Garbage
Smokeless	$2.00 month plus del' chgs.	Not mentioned	Not mentioned	Not mentioned
Central Pennsylvania	Code Price	Not mentioned	Not mentioned	Not mentioned
Western Penna. Districts 5-4-5	10% Increase	10% Increase	Not mentioned	Not mentioned
Ohio	25¢ per ton increase	Not mentioned	Not mentioned	Not mentioned
Michigan	$2.00 per ton for steam lo.	Not mentioned	Not mentioned	Not mentioned
Marylend	Code Price	10% Increase	Not mentioned	Not mentioned
Northern W. Virginia	Same as Smokeless	$2.00 per room per month	35¢ per drop where not metered	Married men $1.50 per mo. single men, $1.00 per mo.
Southern High Volatile	Kanawha, Logan and Williamson same as Smokeless- all others on a ton rate basis	Same as Smokeless Except Big Sandy 10% Increase	Same as Smokeless except Big Sandy 35¢ drop, Harlan & So. Appal. 45¢ drop with 60 W maximum per light	Not mentioned except in So. Appal. where men elect Dr.

1/ Coal Age, March, 1934, editorial supplement

OCCUPATIONAL EXPENSES

	Explosives	Smithing Charges	Electric cap lamps
Smokeless	Operator disignates explosives and sells to loader at cost plus handling charges	½ of 1% of loader earnings per month	8¢ per day per shift worked-loader responsible for any damage
Central Pennsylvania	Same as Smokeless	¾¢ per ton for Pick Coal - ½¢ per ton for machine coal	7¢ per day per shift worked - employee responsible for any damage
Western Penna. Dists. 5-4-5	Same as Smokeless	Same as Central Pennsylvania	6¢ per day per shift - employee responsible for any damage
Ohio	Same as Smokeless Cost of Explosives specified in contract	Not mentioned	Same as Central Pennsylvania
Michigan	Not mentioned	No charge for blacksmith	Not mentioned
Maryland	Same as Smokeless	Same as Central Pennsylvania	6.8¢ per day per shift - employees responsible for any damage
Northern W. Virginia	Same as Smokeless	Same as Smokeless	Same Smokeless
Southern High Volatile	Same as Smokeless	Same as Smokeless except Harlan (no charge unless blacksmith is furnished	Same as Smokeless

OTHER PROVISIONS

	Penalties and fines	Disposal of fines collected	Check-off	Check weighmen	Pay days
Smokeless	$2.00 per day per man for illegal lockout of mine - $4.00 penalty if operator fails to collect any fine	all fines collected are to be donated to charity by mutual agreement	$1.00 per month for dues-maximum of $10 initiation and no limit to special assessment by district officials	miners have the right to elect any employee as check-weighman	Semi-monthly and at least twice each month
Central Pennsylvania	$1.00 per day per man for illegal lockout of mine--$2.00 penalty per man if operator fails to collect any fines	All fines go to operators or union depending on which side caused lockout	Same as above - $6.00 limit for special assessment	must be an employee at time of the election	Same as Smokeless
Western Penna. Dists. 3-4-5	Same as Cen. Pennsylvania	Same as Central Pa.	Same as Smokeless	Cannot interfere with the operators in any manner	Same as Smokeless
Ohio	$1.00 per day per man for illegal lockout - no penalty for failure to collect fines	All fines collected to be used for the burial Fund, Safety or charity	Operator must collect - amount not specified	Specified subject to state laws	on 10th & 25th of mo. - 1 day earlier if paid by check
Michigan	Not mentioned	Fines for loading of impurities go to aid aged & infirm cripples only	Not mentioned	Not mentioned	On Fri. nearest 10th & 25th ea. month by cash or per check
Maryland	Same as Central Pa.	Same as Central Pa.	$1.10 per mo. no limit to assessments	Not mentioned	Not mentioned

III b Continued

OTHER PROVISIONS

	Penalties and fines	Disposal of fines collected	Check-off	Check weighman	Pay days
Northern W. Virginia	Same as Smokeless	Same as Smokeless	$1.50 per mo no limit to assessments	Same as Smokeless	At least twice ea. mo. 1st pay day on or before 15th
Southern High Volatile	Kanawha, Logan Williamson & Big Sandy same as Smokeless. So. Appal. $1.00 per day	Kanawha, Logan Williamson & Big Sandy same as Smokeless So. Appal. same as Central Pa.	Kanawha, Logan Williamson same as Smokeless. Va. $1.25 mo. all others $1.50 mo. - no limit to assessments	Same as Smokeless	Same as Smokeless

and scrip. The legislation is poorly drawn and easily circumvented.

State legislation varies as to negotiability or non-negotiability of scrip. Five coal producing states (Alabama, Kentucky, Oklahoma, Virginia, and West Virginia) require that the scrip be non-negotiable; that is, only scrip presented for redemption by the original holder may be honored. This measure may reduce discounting of scrip with individuals who make a living therefrom, but it also places the company store in a monopoly position and has the effect of compelling the employee to trade at the company store. Discounts on scrip are prohibited in two coal producing states (Illinois and Washington).

Complaints leveled against certain provisions in the Retail Code gave rise to an investigation regarding the methods of using scrip and the social and economic effects. 1/ The study disclosed a great number and variety of arguments in favor of scrip payment and in opposition to it. The investigation was not concerned only with the bituminous coal industry. It also studied the iron and steel, lumber, textile, and other industries.

Some of the arguments against the issuance of scrip are: 2/

1. Employees who do not use company scrip are less apt to trade at company stores and so may face

1 Economic and Social Implications of the Company Store and Scrip System. N.R.A. 1934

2 Ibid, supra, pp. 7-10

the threat of discrimination as to work assignment, lay-offs and discharges.

2. Scrip limits trade to company stores where prices are higher than at independent stores.

3. Use of scrip means assignment of employee's wages and the lack of cash makes it impossible for him to secure credit elsewhere.

4. Scrip as a credit practice keeps the employee in debt to the company store. In some cases employers deliberately pursue this policy by maintaining an unnecessary large labor force and by limiting the work assigned to each employee.

The arguments in favor of scrip and the consequent credit practices are:

1. Scrip is a convenience for the employees. It simplifies bookkeeping and reduces occasions for disputes.

2. The use of scrip has been long established and the employees have become habituated to it so that they have adjusted their economic behavior accordingly. A change in this customary practice would result in widespread hardship and general discontent.

3. The credit system reduces the risk of robbery since large amounts of cash in the store or office become less necessary.

4. Companies are in better position to make credit advances since they do not face much risk of loss, than are independent merchants.

5. Employees during period of illness or unemployment or other emergencies can rely upon company credit without being exploited by loan sharks or becoming public charges.

A lengthy pay period and the witholding of wages for the initial pay period often result in recourse to scrip or some other form of credit. Scrip, which is redeemable in cash one month from date of issue, is often discounted because the employee cannot hold out for that length of time, especially during periods when the mine is operating only part time. In some cases where "non-transferable" scrip was issued, it was found that the operating company arranged to redeem it at face value when presented for commodities or at a discount of from 5 to 20 per cent when presented for cash redemption by independent merchants (Alabama, Kentucky, West Virginia).1/ Where this practice prevails, two sets of prices are kept - cash and scrip - the latter averaging 10 to 15 per cent higher than the former. Of the 658 bituminous coal company stores which reported, 153 or 23.3 per cent of the total stated that they did not use scrip, but kept open charge

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1/ Idem, p. 68

accounts.[1] In some instances certain services such as medical services or insurance premiums cannot be secured for scrip and it becomes necessary to discount scrip at a loss, normally from 15 to 25 per cent.[2] The traffic in scrip in some communities is considerable in amount.

Some 547 stores or 57.7 per cent of the 601 bituminous coal company stores reporting, stated that their parent companies issued scrip on pay days.[3] Where this procedure is followed, it is possible for some of the workers to be chronically indebted to the parent company and not receive any cash for long periods of time. In one case a company in West Virginia went for two years without even the formalities of a cash pay day.

The investigating committees recommended a change in the provisions of the Retail Code. This recommendation was:[4]

> "No company store or retail store shall collect by offset in the form of scrip, book credit or otherwise, against the wages of any person other than its own employees engaged exclusively in the retail trade, an amount for merchandise sold by said store in excess of 25 per cent of such pay earned in any pay-period.
>
> No store shall purchase or receive or accept for cash or consideration in trade or in payment of indebtedness any scrip at less than its par or face value."

In addition the committee recommended that regulations be designed to insure that the worker receive a reasonable portion of his wages in cash on pay day and that pay periods and pay hold-backs be limited to one week. It also recommended that wages due should be paid only in lawful money or par check. This latter provision was already a part of the Bituminous Coal Code (Article V, (c)). Its effective date, however, was postponed from time to time and finally an indefinite stay was granted.

Company Stores: The company store or industrial commissary is closely related to the history of the bituminous coal industry. Many of the richest coal deposits were found in isolated and often mountainous regions and could only be developed by business men who were willing to make the necessary capital investments and furnish labor with houses and provisions. There is little reason to doubt that the company store was originally motivated by the concept of service to the mining population.

1/ Idem, p. 90

2/ Idem, p. 69

3/ Idem, p.98

4/ Idem, p.2

The oldest bituminous coal fields are those of the Central competitive field, comprising Western Pennsylvania, Ohio, Indiana, and Illinois. Production in these fields became increasingly important during the last two decades of the nineteenth century. Many of the mining operations were located in remote regions so that the operating companies were compelled to build houses for the miners, set up company stores, and provide other essential services to the mining community. Conditions in these fields were remarkably bad until the end of the century.1/. Many changes, however, have taken place in these fields as a result of their unionization and the development of surrounding communities. Company controlled communities with company houses and company stores have become relatively insignificant.

The development of newer coal fields in the early years of this century has brought with it a continuation of the characteristics first found in the older coal fields. Many rich coal deposits were found in the mountainous areas of Maryland, West Virginia, Virginia, Kentucky, Tennessee, Alabama, Arkansas, and Colorado. These new coal fields are more mountainous and in general more distantly located from large settlements than was true of the older fields. The development of captive mines in these new coal areas by large industrial corporations has meant the development of a great many company towns. In addition, it must be remembered that these regions were mainly on a non-union basis until the advent of the N.R.A. and the Bituminous Coal Code.2/ These newer coal fields, then, are the ones where the company controlled community, company houses, and company stores still persist.

Any discussion of the company store is necessarily closely related to credit policy and scrip payment. It is necessary, therefore, to make reference to the preceding section of this manuscript. The distinguishing feature of the company store is its exclusive right to collect money owed to it by its customers by deducting such obligations from the payroll of the operating company.

The company store may be owned by the parent company, a department of the operating company, a subsidiary,, or semi-dependent store. In those cases where the company store is semi-independent, the operating company makes a wage deduction agreement with the store. Commissary rights are sold to outsiders for a percentage return (varying from 5 to 10 per cent) on the sales made for scrip or other types of credit. The study of the company store system found that for 658 bituminous coal stores in 1934, 66 per cent were under a department of the parent company, 20.6 per cent were subsidiaries of the company, and 13.4 per cent were semi-dependent.3/

The practices of the company stores have been touched upon in a number of investigations carried on by the Federal Government. The outstanding reports which made reference to company stores in the bituminous coal industry were those of the United States Bituminous Coal

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1/ George, J. E. The Coal Miners' Strike of 1897, Quarterly Journal of Economics, Vol. 12 pp. 187-191.

2/ Cf. Section dealing with history of wage negotiations and of industrial disputes.

3/ The Economic and Social Implications of Company Store and Script System. op. cit. p. 80

Commission (1920), the United States Coal Commission (1920), U. S. Senate Investigation of conditions in the coal fields of Pennsylvania, West Virginia, and Ohio (S.Res. 105) 70th Congress, 1st Session, 1928), Davis-Kelly Bill (1932), and the U. S. Senate Investigation of conditions in the coal fields of Harlan and Bell Counties, Kentucky (S. Res. 178, 72nd Congress, 1st Session, 1932.)

Numerous arguments for and against the company stores have been made. Some of these contentions have already been presented in the preceding section dealing with scrip payments. Some additional views opposing the company store are:

1. Company store practices result in reducing the self-reliance of the employee and shift the responsibility of budgeting family income from the housewife to the store manager.

2. Company stores foster economic peonage and are only a perpetuation of the "truck" system.

3. Company store prices are higher than those of neighboring independent stores.

4. Parent company owned stores represent a dual enterprise which reclaims wages that might otherwise be retained by the employee.

Against these statements appear those which hold that:

1. The credit system helps the employee to budget his own expenses.

2. The company store protects employees from exorbitant prices which might otherwise be charged by irresponsible independent merchants in isolated communities.

3. The profits of the company store result in the employer paying better wages.

4. The company store, through its patronage, encourages local agriculture and industry.

This controversy appeared again when employment conditions and provisions were discussed at the hearings held to formulate the coal code. One large northern operator stated:

> "Now, all over the Middle West, and I am pretty sure in other districts, one of the meanest methods of unfair competition is agreeing to pay the men the standard scale and then pay them in phoney money or take back his security by raising their rents or in some other way..."1/

Another operator with headquarters in Ohio, speaking for the Central Coal Association, said:

> "In the non-union mines it is the general practice, that is, our mines and everybody else's non-union mines, when the men do not trade at the company store and pay whatever prices are asked, they are let out. That is particularly true in the South. Furthermore, there is the practice of paying the men

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1/ Bituminous Coal Code Hearings, August 10, 1933, - p. 1015

with coal which is good only at the company store."1/

The W.P.A. investigation of company stores generally, made in 1934, found that returns from the bituminous coal fields were concentrated in the states of West Virginia, Pennsylvania and Kentucky.2/ The returns from each of three other coal producing states represented a little over one per cent of the total number of [illegible]. The Keystone Coal Directory, 1932, recorded a total of 95[illegible] company stores. The distribution by states of the company stores is shown in the following table.3/

Table IV

Distribution of [illegible] Bituminous Coal Company Stores by States, 1934

State	Number of Stores	Percentage of Total
Alabama	37	5.6
Colorado	5	0.8
Illinois	4	0.6
Kentucky	100	15.2
New Mexico	5	0.7
Ohio	9	1.4
Pennsylvania	161	24.5
Tennessee	13	2.0
Utah	6	0.9
Virginia	33	5.0
Washington	6	0.9
West Virginia	265	40.0
Wyoming	8	1.2
All others	8	1.2
Total	665	100.0

It has long been argued that company stores are necessary to serve isolated communities. The investigation committee found for the bituminous coal industry that 77.2 per cent of the company stores were one-half mile or less from competitors and that 79.5 per cent were a mile or less distant.4/ The field investigators held that a community which has an independent store within five miles cannot be considered isolated. In the bituminous coal industry only 2.1 per cent of the company stores were more than five miles away from independent competitors. It would seem that with modern improvements in transportation and communication facilities, isolation can no longer be held as a valid argument for company stores.

1/ Ibid, Supra, p. 1043.
2/ Bonnett and Social Implications, etc. op. cit. p. 77.
3/ Ibid, Supra, p. 78
4/ Ibid, p. 82.

Frequent complaints have been made to the effect that company stores charged higher prices for merchandise than did independent enterprises. This charge may have some validity in view of the fact that some five states have legislated on the matter of prices charged for goods at company stores (Arkansas, Connecticut, Indiana, Ohio, and Virginia). Four of these states produce coal.

A field investigation was made of the prices charged by 102 representative commissaries and 85 independent, privately owned stores.1/ The study compared commissary prices with those of the nearest independent competitor giving due regard to comparable service, such as credit, delivery, and location. In general the same foodstuffs, which the U. S. Coal Commission had studied, were included. Since the investigators found little difference in the general character of commissaries, a geographical rather than industrial grouping was made. The average prices charged by company stores and by independents were given the same weights which the Commission used.2/ In those instances where an area was investigated, which the Coal Commission had not studied, the most appropriate weight of another area whose people has similar habits was used. The following table is a summarization of the price comparison for those areas predominately interested in coal production.

1/ Ibid., p. 52.
2/ U. S. Bur. Coal Economy, Part III, p. 1375-7

Table V

Comparison of Retail Prices of Foods in Company Stores and in Neighboring Independent Stores in 1934 (1)

District	Number stores reported		Aggregate of month's avg. prices		Per Cent Increase of Company Store prices over Independent Store Prices
	Company stores	Independent stores	Company stores	Independent stores	Independent store prices.
Alabama (Birmingham)	14	14	[illegible]	[illegible]	5.9
Eastern Kentucky	9	7	[illegible]	[illegible]	7.7
Eastern Tennessee	6	4	[illegible]	[illegible]	10.4
Western Virginia	11	11	[illegible]	[illegible]	2.1
West Virginia (Fairmont & Kanawha ?)	10	10	17.70	16.94	4.5
New River	23	15	42.37	40.52	4.6
Logo	10	10	27.03	25.23	7.1

(1) The Economic and Social Implications of the Company store and Scrip System, N.R.A., 1934, p. 63. These areas were selected as being largely coal producing in character. The Birmingham district probably also included reports for the steel industry.

The average prices charged by company stores, when all items were weighted and considered collectively, were higher than those charged by independents in all areas which were studied. The range of difference varied from 2.1 in Virginia to 10.4 in Eastern Tennessee. It must be remembered that company stores (many of which are members of a commissary chain) were compared with independent stores. If chain stores had been included in the study, the difference in prices would have been even greater.

The degree to which company stores are really "company" may be seen in the fact that 65.6 per cent of the 642 bituminous coal company stores reported that 95 per cent or more of their total sales were made to company employees in 1933.1/ Approximately 32 per cent of all the

1/ Economic and Social Implications, etc. op. cit. p. 34.

stores reported that more than 50 per cent of their total sales were made to company employees. Only 1.5 per cent of the stores reported 75 per cent or less of total business with company employees. Two views may be taken of this analysis -- one, that in these communities, coal mining was the sole source of employment and therefore all store business would be with the employee or his household, the other, that employees in the community, not engaged in coal mining, preferred to trade at neighboring independents because of price or service considerations. Another indication of the extent of the company stores may be gotten from an analysis of the type of sales made. A large credit business indicates company employee trade. Approximately 82 per cent of the stores reported that cash sales in 1935 represented 10 per cent or less of total sales (55 per cent of all the stores had 5 per cent or less in cash sales.)1/ Only 4 per cent of the stores reported cash sales amounting to 20 per cent or more of the total sales.

It is of interest to note the relationship of company store sales to company payrolls. For 562 stores reporting both sales and payroll figures, the percentage which sales to employees represented of the annual payroll for 1935 was 37.4 2/ When these percentages are analyzed by states, it will be noted that those areas which are better organized or closer to major cattle cats have lower percentages (Ohio; 7.9; Illinois 17.3). The highest percentages are found in Tennessee, Virginia, Alabama, and Kentucky.

Table VI

Percentage of Annual Sales to Company Employees by 562 Company Stores to Total Annual Payroll of Parent Companies in 1935, by States

State	Number Stores reporting	Percentage Employee Sales to total annual payroll
Alabama	35	42.
Colorado	5	37.4
Illinois	9	7.3
Kentucky	27	40.8
New Mexico	5	23.8
Ohio	7	19.5
Pennsylvania	155	24.0
Tennessee	15	55.5
Utah	6	36.0
Virginia	30	44.7
Washington	3	21.0
West Virginia	21	36.4
Wyoming	2	29.1
All others	2	24.5
	562	37.4

1/ Ibid, p. 31.
2/ Ibid, p. 4.

When a worker desires credit at a company store, application is made to the book keeper or store manager. Advances are usually made against wages already earned, but not due until next payday. The amount of unassigned wages against which credit may be extended is usually ascertained by the store representatives. Occasionally, credit is given against future or unearned wages, during periods of temporary unemployment or in case of individual emergencies such as illness. Out of a total 652 stores reporting, 342 or 52.5 per cent stated that they had access to the company employees' earnings.1/ Where the payroll master of a parent company issues a store order to an employee, there is no need to have access to earnings records. Accessibility of earnings records is important as a check on credit extension and on the volume of purchases made by each employee. It is claimed that the latter check is used as a threat of discrimination against the employee who does not buy at the company store. The N.R.A. investigating committee found but few cases of direct and indirect pressure exerted on the employee to trade at the company store.2/

In general, issuance of credit by company stores is made on a business basis rather than a philanthropic basis. An analysis of bad debts indicates that the ratio of losses to total sales for the period 1931, 1932, 1933, and six months of 1934 amounted to only one per cent.3/ The losses include both bad debts and employee relief because most company stores do not separate these items. In the majority of cases, employee relief is not an outright grant, but rather a form of credit with the view of liquidation from future earnings. The following table will indicate by states the total sales and the losses on bad accounts and employee relief for the Year 1933.

1/ Idem, p. 93.
2/ Idem, p. 5.
3/ Idem, p. 93.

Table VII

Amount of Coal Sold and Employee Relief and Total Sales of Bituminous Coal Dollar Stores in the United States 1/

State	Losses on bad accounts and employees relief	Total sales	Ratio losses to total sales
Alabama	$ 39,302	$6,514,229	0.6
Colorado	231	233,233	0.1
Illinois	2,807	2[illegible],290	0.1
Kentucky	[illegible],740	[illegible],[illegible]26	0.4
New Mexico	1,[illegible]2	327,[illegible]5	0.0
Ohio	1,[illegible]8	1[illegible],207	0.2
Pennsylvania	[illegible],[illegible]5	14,[illegible]47,[illegible]3[illegible]	1.6
Tennessee	7	6[illegible],1[illegible]8	0.[illegible]
Utah	[illegible],[illegible]5	1[illegible],[illegible]51	1.9
Virginia	1,[illegible]9	[illegible],7[illegible],[illegible]3[illegible]	3.5
Washington	1,[illegible]2	[illegible],[illegible]75	0.0
West Virginia	1[illegible],[illegible]1	[illegible],1[illegible],[illegible]26	0.[illegible]
Wyoming	[illegible],[illegible]2	7[illegible],7[illegible]5	0.4
All others	1,[illegible]4	823,821	0.3
Total	$[illegible]0,[illegible]7[illegible]	$[illegible]1,867,[illegible]41	0.[illegible]

1/ Monopolies in Social Applications. op.cit.

Company Houses: The housing facilities offered by various mining communities are quite important to the mine worker and his family. They are significant not only in terms of general living conditions, but also have a bearing upon the conditions of employment. The conditions in bituminous coal mining which led operators to establish company stores operated in a similar manner in the building of company houses. Mining operations distantly located from large settlements or mining communities which are company controlled are apt to have a high percentage of company owned houses.

The U.S. Coal Commission in its investigation of the bituminous miners and their homes found three distinct territorial characteristics in the coal fields. (*) Pennsylvania and Ohio were fairly well settled before mining operations began and although there are numerous normal communities scattered through the coal fields, between a fourth and a half of the mine workers live in company houses. The Southern Appalachian Area (West Virginia, Eastern Kentucky and Tennessee, Virginia, Maryland, and Alabama) is more distantly located from normal settlements and larger proportions of mine workers - two-thirds to three-fourths live in company controlled communities. The third area group (Illinois, Indiana, Kansas, Missouri, and Iowa) where agriculture and industry had established independent towns, where satisfactory transportation facilities existed, and where the mining population was predominately native-born, only a small proportion (approximately 10 percent) of the miners live in company houses.

Natural location of mining operations determines to a large extent the type of community and the housing facilities which are provided. Here flat, open spaces or softly rolling hills are the locale of the mining town (as in the Middle Western States and parts of Ohio and Pennsylvania), considerable opportunity exists for providing houses with fair sized yards, play grounds, etc. Where, however, the mining operation is located along a winding creek in a narrow valley, with sharply rising hills, the community and housing facilities are distinctly limited. Such locations are quite common in the Southern Appalachian Area. While natural limitations do exist, most mining communities evidence a lack of planning and an inadequacy of equipment. (**) The houses are often poorly located, being close to the railroad tracks and the tipple. They are usually constructed of the cheapest material - wood with the outside finished consisting of weatherboard nailed directly to the frame and often lacking in any sheathing, except perhaps paper. Most of the roofs are of composition paper. Only a very small percentage of the houses were furnished with inside flush toilets, bath tubs, and running water. Many of the houses are in a state of disrepair and the painting is often neglected. These latter conditions are not meant to be descriptive of all company houses. It must be remembered that some operating companies follow a policy of furnishing neat houses to mine

(*) U.S.Coal Commission, Part III, pp. 1140-1142.

(**) See Testimony in James Walter Carter vs. Carter Coal Company, Transcript of Record, No. 656, Supreme Court of the United States, October 1935, pp. 505-508; pp. 520-521, et.

orkers and maintaining these houses in a satisfactory condition. To some extent the housing conditions are dependent upon the miner and his family insofar as they are willing to cooperate in having cleanliness and to take good care of the rented property.

ore important for the purposes of this section dealing with the conditions of employment is a discussion of the terms upon which the bituminous mine workers live in company houses. Before entering upon the discussion, it must be pointed out that the range and level of rentals for company owned houses are lower than for others. In addition, the occupant of the company owned house secures his fuel and often his light at a lower cost than other wage earners. In some instances, no additional charge is made for water even though it be piped to the premises.

The main objective of a coal company which builds houses in the vicinity of its operations is to keep a supply of mine workers. hen a man and his family move into one of these houses, it is on that basis that he is employed or will be employed by the company. Unless the company's mines shut down, the miner who ceases to work in the mine must surrender his house to the man who replaces him in the mine. In this way the miner living in a company house differs in status from other individuals renting independently owned houses. The miner, in these instances, does not rent the house under the ordinary tenancy laws, which in every state assure security of tenure, days of grace before eviction even for proven breach of contract, and an American citizen's dominion over his own premises during lawful tenure thereof. (*)

The house leases used by coal companies may differ somewhat in phraseology, but the provisions differ only in the degree to which the company's rights are explicitly stated and the manner in which claims of ordinary tenancy are abrogated. The leases show that: (**)

1. The lease terminates automatically whenever the mine worker ceases, from any cause whatsoever, to work for the coal company.

2. The lease can usually be terminated by either party, ordinarily upon five days' notice.

3. The company may legally put the mine worker and his family out of the house after termination of the lease without prejudicing its claim for any rental arrears and without incurring liability for damages resulting to the mine worker's belongings thrown eviction.

(*) U.S. Coal Commission, Part III, p. 1167.

(**) Ibid, Parts, p. 1169. Copies of company house leases may be found in the appendix to the same report, p. 1179 - 1186. Also testimony in Carter Coal Case, October, 1936, Transcript of Record, Supreme Court of United States, p. 40 and 44c.

4. The company may pay itself out of mine workers' wages for rent due and also for damages to property. The company may also, according to some leases, withhold all unpaid wages at the termination of a lease, until the premises are surrendered. According to others, the company may retain permanently $2.00 for each day the premises are occupied by the mine worker or his family after the lease was terminated.

5. The company reserves the right to enter and inspect the premises at any time and to make and enforce rules and regulations affecting the streets or roads upon which the premises abut.

6. The mine workers, according to some leases, must not entertain or harbor upon the premises persons objectionable to the company. Some leases prohibit taking boarders or boarders unless these are employees of the company. Other leases state that the mine workers' rights in the premises are only as means of ingress or egress for himself and family.

These provisions, whether they be in the interests of law and order or to insure more effective control over labor supply, do make for legal insecurity of house tenure and limited dominion of premises during tenure. A provision which states that a miner who loses or gives up his job "for any reason whatsoever" loses the right to occupy his house from the day he ceases to work, is open to abuse. A sudden altercation with the mine boss may end in discharge for the miner and loss of home for the miner's family. Likewise, the mine worker approaches the bargaining process with considerable timidity since not only his job but also shelter for his family may be in jeopardy. Some operators have contended that these provisions were mere forms and rarely used. Senate investigations concerning conditions in coal fields have found, however, that in some instances where companies went from a union to non-union basis (*) or where companies sought to prevent unionization (**) eviction of miners from their homes, often in the Winter season, was not uncommon. It is not fair to cite such evictions as illustrative of the general situation, but they do represent a threat against the miner's security. Thus, the miner and his family face not only a cessation of income, but a loss of shelter and the expense of moving.

Industrial Police - (a) Coal and Iron Police: The system of industrial police (more commonly known as coal and iron police) has been the subject of bitter controversy in the bituminous coal industry, especially in Pennsylvania. While the industrial police system is not peculiar to the coal industry, it has received more publicity with

(*) Hearings on S. Res. 105, Investigation of Conditions in Coal Fields of Pennsylvania, West Virginia, and Ohio. 1928.

(**) Hearings on S. Res. 178, Investigation of Conditions in Coal Fields of Harlan and Bell Counties, Kentucky, 1932.

reference to this industry than perhaps for any other excepting the steel industry. The industrial police had three attributes which especially distinguished them from watchmen guarding their employers' property. (*) They had the power to arrest on a warrant; their employers were not liable for their unlawful acts unless done in pursuance of direct orders; and, above all, they had the title and the uniform of a police officer and an authority which sprang from the Commonwealth itself.

The first statute in Pennsylvania permitting private persons and corporations to pay and direct their own police with commissions granted by the governor was enacted in 1865. This Act related to railroads. In 1866 the system was extended to operators of any "colliery, furnace, or rolling mill", and later it was extended to certain utility companies. The various statutes, except those dealing with railroad police, were assembled in a single statute providing for "Industrial Police" (Act of April 18, 1929 P.L. 546.)

This Act authorized the Governor to appoint industrial police on the application of "any corporation, association or individual owning, leasing or being in possession of any colliery, furnace or rolling mill, and any water company, water supply company, water power company, electric light company, electric power company, electric transmission company, mineral, mining or quarrying company, or express company, within its Commonwealth". (**) A requirement of residence in Pennsylvania for at least one year prior to the appointment was made and the Governor was required to investigate the appointee's qualifications. The appointee had to give bond with a corporate surety. The Governor could revoke any commission at his pleasure. The industrial policeman was paid by the company securing his appointment. He had "the powers and prerogatives conferred by law upon members of the police force of cities of the first class, and upon constables". He wore a uniform approved by the Governor and a badge bearing the words "Industrial Police" and the employers' name. The Act was an improvement on the previous statutes in that it required every industrial policeman to have been a bona fide resident of the Commonwealth for one year and it required a surety bond for each appointee.

The coal and iron police were, in most instances, armed men employed by certain companies to protect their interests. Since their police powers were granted by law and their commissions were issued by the Governor, their effectiveness as a line of private militia was considerably increased. Abuse of authority did not make the employer liable for damages unless specific directions for unlawful acts had been issued. (***)

(*) Report to Governor Gifford Pinchot by the Commission on Special Policing in Industry, Special Bulletin No. 56, 1934, page 16, Harrisburg, Pennsylvania.

(**) Ibid, supra, p. 19

(***) Mann v. Pittsburgh Terminal Coal Corporation, 177, Pa. 109; 1930.