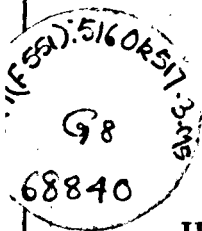


Harvard Economic Studies, 63

MONOPOLY AND COMPETITION  
IN THE ENGLISH COAL TRADE  
1550-1850

PAUL M. SWEEZY



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**PUBLISHER'S NOTE**

This book traces the development of the coal trade between the northern countries and London during the formative years of English capitalism. Economic historians have long been familiar with the combination of mine owners, generally known as the Limitation of the Vend, which dominated the trade from 1771 to 1845. In this study the origins of the Limitation are traced back to the economic institutions of the mediaeval town economy; and its eventual dissolution is shown to have been the inevitable result of the widening of the area of competition brought about by the introduction of the steam railroad. A considerable amount of new material in the way of original manuscripts and records has been brought to bear on the problems discussed. In the concluding chapter Mr. Sweezy shows that the kind of analysis which has been applied to one particular industry, is capable of being generalized so as to throw light upon the very important problem of the relation between monopoly and competition in the development of the capitalist system as a whole.

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Monopoly and Competition in  
the English Coal Trade  
1550-1850

BY

PAUL M. SWEEZY

INSTRUCTOR IN ECONOMICS IN HARVARD UNIVERSITY



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*To The Memory of  
My Father*

## PREFACE

A SATISFACTORY theory of economic development will have to find a place within its framework for a careful analysis of the forces which determine the form and degree of competition prevailing at various stages of economic evolution. Before such a theory can be successfully formulated, however, a great deal of detailed investigation into the relevant facts is essential. The purpose of the present study is to make a beginning in this direction; while the tentative generalizations of the concluding chapter are intended to serve as guides for further research in this important branch of economics.

This study was first submitted as a doctoral dissertation at Harvard in the spring of 1937 under the title "The Limitation of the Vend," a name frequently used to designate the late eighteenth- and early nineteenth-century cartel of Durham and Northumberland coal owners. It has since been expanded to include a treatment of the period from 1550, when the coal industry first assumed national importance, to 1771, the date fixed by a parliamentary committee of 1800 as marking the beginning of the Limitation.

My interest in the problems of economic development was first aroused by a study of Marx's brilliant investigations into "the law of motion of the capitalist system." Marx opened up a vast territory which has been very inadequately explored. For an appreciation of the possibilities of the English coal trade as a revealing case study, I am indebted to Professor Hermann Levy's stimulating and suggestive book, *Monopoly and Competition*. My debt to Professor J. U. Nef's two-volume study, *The Rise of the British Coal Industry*, will be obvious to the reader. Professor Nef has made an outstanding contribution to the understanding of economic history for which every one working in the field must feel grateful.

I wish to express thanks to Professor Henry Louis, Director of the North of England Institute of Mining and Mechanical Engineers, Newcastle-upon-Tyne, for affording me every facility to use

the invaluable collection of documents and pamphlets in the possession of the Institute; to Mr. T. V. Simpson, whose knowledge of these documents was of great assistance; to Mr. J. T. Robson, Assistant Secretary of the Durham and Northumberland Coal-Owners' Association, for putting at my disposal the minute books of the Limitation of the Vend for the last two decades of its existence; and to Sir William Beveridge, Chairman of the International Scientific Committee on Price History, for permission to make use of data on coal prices in the late eighteenth and early nineteenth centuries which are soon to appear in the Committee's study of the history of English prices.

P. M. S.

Dunster House,  
Cambridge, Massachusetts  
May 1938

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## **APPENDICES**

## APPENDIX A

### THE EFFECTS OF THE LIMITATION ON COAL PRICES AND QUANTITIES

IN THIS appendix, we shall attempt to assay the effects of the Limitation on the course of prices and quantities in the coal trade, both in terms of the trade itself and in its relation to the rest of the economic system. This is, so far as I know, the first attempt to carry out such an investigation for the early nineteenth century, though of course the study of monopoly and combination in later times has been carried much farther in many cases.

The material we shall use consists of various time series which will be described as we proceed. For purposes of comparison with general economic conditions we shall use Silberling's well-known index<sup>1</sup> and Thorp's *Business Annals*.<sup>2</sup> Many of the conclusions drawn are obviously in the nature of guesswork; but a guess which is based on some evidence and thought is surely better than nothing.

#### I. THE SHORT-RUN EFFECT OF SUSPENDING THE REGULATION

For purposes of examining this problem we shall use a monthly price series. Material for such a series is available from 1807 through 1844, with the exception of the year 1839. For the period 1807-1837 inclusive, it comes from parliamentary reports;<sup>3</sup> for 1838, from a contemporary pamphlet,<sup>4</sup> the accuracy of which has been checked against the Parliamentary figures for the preceding two years; and for 1840-1844 inclusive, from a carefully prepared chart in the British Museum, which has every indication of being trustworthy. Two further explanations are necessary about this series. First, it gives the prices of "best" coal in the London market. Obviously the best coal did not bear the same name throughout the whole period. For example, Eden's Main, a Sunderland coal, was one of the highest-priced in 1807 but one of the lowest by 1830. Its quality had obviously deteriorated in the meantime, and no useful purpose would be served by charting the course of its price. Consequently the procedure followed was to take the highest-priced coal at every point of time. Fur-

<sup>1</sup> N. J. Silberling, "British Prices and Business Cycles, 1779-1850," *Review of Economic Statistics*, Supplement, October 1923.

<sup>2</sup> W. L. Thorp, *Business Annals* (1926).

<sup>3</sup> *Report . . . of the Coal Trade*, 1829, Appendix 7; *Report . . . of the Coal Trade*, 1836, p. 65; *Report . . . on the Coal Trade (Port of London) Bill*, 1838, p. 76.

<sup>4</sup> Robert Anderson, *A Brief Exposition of the Present State of the Coal Trade* (1839).

ther justification for this method is provided by the fact that it was the highest-priced coal which was always used by the Limitation in its calculations. From 1807 to about 1820, the highest-priced coal was usually one of the Newcastle Wallsend varieties; from 1820 it was almost without exception Stewart's Wallsend, a Sunderland coal. Accordingly, from 1823 to 1837 inclusive the series is a true price series for Stewart's Wallsend. After 1837, the quality is described as "best Sunderland coal," and may well have been Stewart's Wallsend in the great majority of cases.

Second, it should be noted that the price used is only one quotation for each month; that is to say, it is not a monthly average, which would of course be preferable, but which cannot be obtained. In almost every case the quotation is for the first market day of the month in question; though in the period for which the series relates solely to Stewart's Wallsend, it is for the first quotation of the month. There may have been some few months when no Stewart's Wallsend came to market on the first day.

Finally, through 1831 the prices are per London chaldron and thereafter per ton. This is explained more fully in connection with Chart IV below.

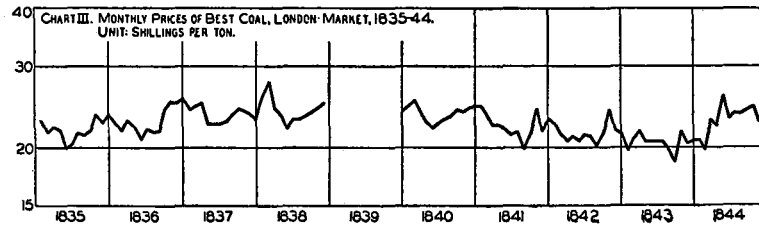
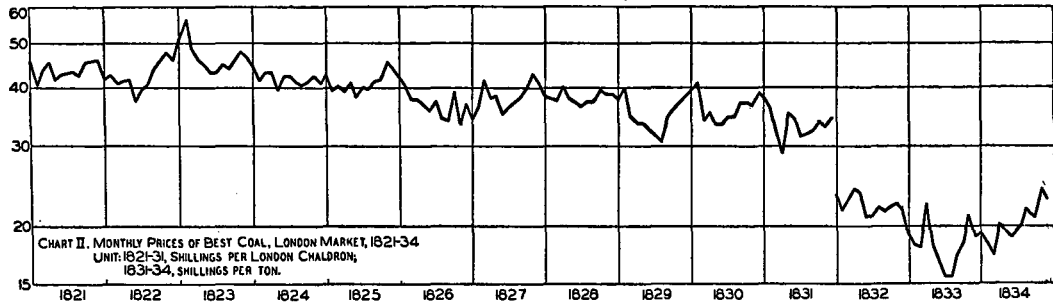
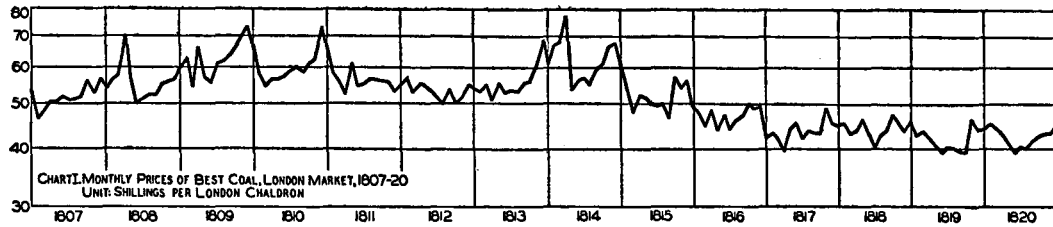
These are, of course, limitations on the accuracy of the series in question; but on the whole they are not very important. It is for the period a very good and continuous record. The series for the whole period of thirty-eight years is presented in Charts I, II, and III, plotted on a log scale to facilitate comparison of fluctuations at different levels.

The story told by these charts can be set out quite briefly. As we already know, the regulation was off in all or part of the years 1812, 1824, 1826, 1829, 1833, and 1834. Some evidence also exists that there was open trade in 1814 and 1821, though it is of such a nature that we cannot be sure what significance to attach to it. Let us take the first group first, treating the various years separately.

*1812.* Prices in 1812 were lower than in either the preceding or succeeding year, and the seasonal fluctuation which at that time was well marked if somewhat irregular seems to have been much damped down. Open trade started at the beginning of the year; when the regulation was reimposed is not recorded. General prices in 1812 — it is understood that "general prices" means "general prices according to Silberling's index" — were somewhat higher than in 1811, though considerably lower than in 1813. Not much significance should be attached to this comparison in the examination of the monthly figures, since what we are interested in at the moment is the behavior of the coal prices themselves. No one examining the chart can fail to be impressed with the fact that 1812 was an exceptional year.

*1824.* The extra tax of 3s. 4d. per chaldron on coal imported into London was abolished in April 1824, making the duty equal at 6s. for





London and other coastal ports.<sup>5</sup> This reduction was reflected in a 3s. 6d. fall in price as between April and May. Open trade made itself felt in August. Thereafter price tended downward with very small fluctuations until July 1825. This suggests that regulation was not restored until the middle of 1825, though we cannot be sure that this downward movement was not due to the gradual working out of the full effects of the tax reduction. The sharp rise in general prices in 1825, finding no counterpart in coal prices, even indicates the possibility that both forces were at work.

1826. The limits of open trade are not recorded. The rather sharp downward trend for the year suggests the possibility that the limits were the beginning and end of the year; but it should be remembered that 1826 was a year of sharp recession in general prices. The seasonal does not follow the more usual pattern. Thus 1826 is another year on the chart that hits the eye.

1829. The regulation went off late in January and was reimposed the last day in August, but we should not expect the effects to show in London until March and October. Actually, March does show a large decline over February; but prices started up in September, August being the low point. Perhaps effective control was established before the agreement was formally put into effect. At any rate, the difference in the level of prices during the regulated and the non-regulated parts of the year is very striking. No conclusions are possible as to the effect on seasonal fluctuation.

1833-1834. These two years should be treated together as forming parts of one continuous unregulated trade. The agreement lapsed early enough in December 1832 for the effect to be felt in London in January. Regulation was reimposed on March 1, 1834, and a sharp rise followed in April. Except for two months, this fourteen-month period exhibits a remarkable depression of prices, unassociated with any similar movements of general prices, which changed very little during this time. The high price in April 1833 is unaccounted for, and may be due to a purely accidental failure of ships to arrive. On the other hand, the substantial increase in the summer of 1833 may best be explained by the temporary success of a partial price agreement.<sup>6</sup>

Let us now turn to the two years 1814 and 1821. As to 1814, aside from the uncertainty as to whether an open trade did exist and for how long, it was such an exceptional year that nothing much can be concluded from it. Evidence before the Committee of 1838 indicates that sometime early in the year ice on the Thames so interfered with shipping that prices for a brief period were as high as 100s. per London chaldron,<sup>7</sup> though obviously such extreme conditions did not exist on

<sup>5</sup> See above, pp. 49-50.

<sup>6</sup> See above, p. 104.

<sup>7</sup> *Report . . . on the Coal Trade (Port of London) Bill*, p. 97.

the first market day of any month. Second, 1814 was the last full year of war and the high point of general prices for the whole century 1750-1850. The drop in prices during the summer and early autumn might be due to open trade, but it is not safe to draw such a conclusion.

As to 1821, this year, while perhaps exhibiting a somewhat less marked seasonal variation than was usual at the time, appears to be fairly normal both as to the movements of coal prices and the relation of the latter to general prices. The conclusion seems warranted that if an open trade did exist in 1821, it cannot have been of long duration.

One more point emerges from these charts of monthly price data, namely, the relative stability of prices — disregarding trend — during the period 1834-1843 inclusive. It is not unreasonable to attribute this fact to the working of the Factors' Regulations which were in force for the whole period.

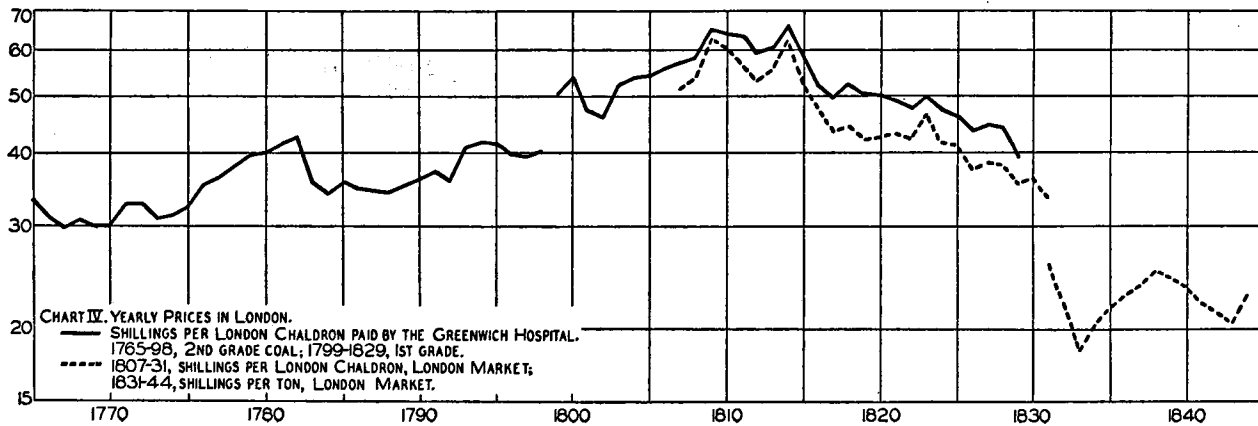
In summing up this review of monthly price movements, one fact is clearly indicated. The short-run effect of the Limitation was to keep prices above what they would have been had it not been in existence. Unfortunately, material does not exist — or if it does, it has yet to be unearthed — on which one might attempt to assess the long-run effect. Such an attempt would involve extending the series for at least ten years beyond 1845 and comparing the relation to other data both before and after the breakdown of the Limitation. Even then, conditions had changed so much by 1850 or so that it is doubtful whether the results would have much validity.

## 2. PRICES AND QUANTITIES

The next problem is to analyze together price and quantity series with a view to discovering what, if any, relationships can be established and in what way the Limitation manifested itself. For this purpose we make use of three series which we must now describe.

Chart IV shows annual prices from 1765 through 1844. From 1765 through 1798 the prices are for second-grade coal delivered into the cellar of the Greenwich Hospital in London. They are data collected for the Price History Study under the direction of Sir William Beveridge. The prices are calculated per "bare" London chaldron, that is without "ingrain," which means that they are approximately 5 per cent less than they would be had they been calculated per full chaldron. The Price History series are made up on the basis of "harvest years"; the year 1800, for example, means the twelve-month period from the harvest of 1800 to the harvest of 1801. This procedure is obviously convenient for some purposes, particularly when it is a question of getting significant series of food prices. But it is not at all convenient for our purposes, inasmuch as all the other relevant statistics are reckoned on a calendar-year basis. Fortunately it is very easy to make the necessary

CHART IV



correction in the case of the coal price series. The Greenwich Hospital made its purchases of coal, usually consisting of three or four cargoes yearly, almost without exception in the spring or summer when prices were thought to be at or near their minimum. Consequently the prices quoted by the Price History for the harvest year 1800 are in reality the prices paid for coal bought in the calendar year 1801. We have simply, then, to make this change systematically in order to reduce the Price History data from a harvest-year to a calendar-year basis and thus render them comparable with other price and quantity data. How well justified this move is in practice will be demonstrated in a moment when we come to the question of the reliability of the Price History series.

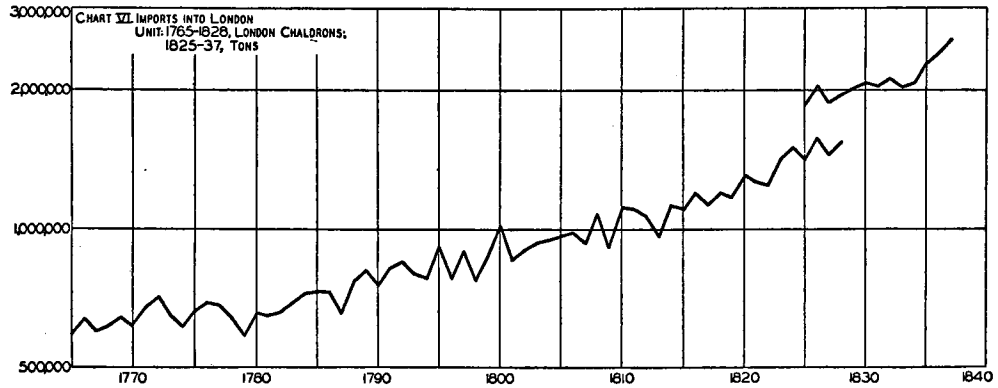
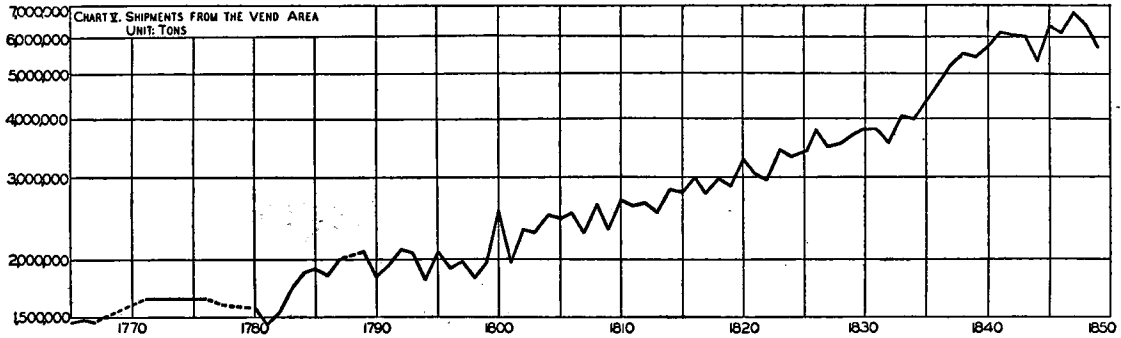
From 1799 through 1829 the solid line is a continuation of the previous series, only now the quality changes from second to first grade. There is no way of linking the two series together, but it may be inferred from a few quotations of second-grade coal in the early 1800's that the difference in price between the two was three to four shillings. If this is so, we may conclude that the price of second grade increased sharply (by from six to seven shillings) in 1799 over 1798. This, however, is not indicated on the chart.

The dashed line from 1807 through 1831 shows the arithmetic average of the monthly prices used in the preceding charts. These are per London chaldron with ingrain as sold on board ship in the London market. The rather remarkable conformity of this series and that showing the Greenwich Hospital prices for the same years, even though the latter are based on a much less satisfactory sample of quotations, gives us confidence in the Price History data for earlier years, and also completely justifies the procedure used in transforming from harvest to calendar years.

Finally, the dashed line from 1832 through 1844 is a continuation of the last series described, the only difference being that the prices are per ton, following the legal change from measure to weight at the beginning of 1832. The price for 1831 has been recalculated on a ton basis at the rate of 27 cwt. per chaldron in order to give continuity to the two series; but it would be hardly justifiable to recalculate either of the series *in toto*. This is because the London chaldron was a unit of measure and 27 cwt. is only an approximate equivalent in weight which may at times have been considerably wide of the mark.

Chart V shows quantities shipped out of what is called the "vend area." The latter includes the Tyne and the Wear from 1765 to 1828; Stockton comes in in the latter year, and Seaham is included after its completion in 1831. Hartley and Blyth are not included at any time because figures are lacking, but it is certain that their omission is not a serious matter.

### CHARTS V-VI



From 1765 through 1799 the figures are those collected by Ashton and Sykes.<sup>8</sup> They have been converted from Newcastle chaldrons to tons at the official rate of 53 cwt. This is a perfectly legitimate operation because the Newcastle chaldron, unlike the London chaldron, was always a unit of weight, and at this period its relation to the ton was legally established. The figure for 1800 is taken from Dunn's *View of the Coal Trade*,<sup>9</sup> in preference to the figure given by Ashton and Sykes, since the latter seems to be fantastically high. From 1801 through 1849 the figures are taken from Porter's *Progress of the Nation*.<sup>10</sup> As indicated earlier, Porter's figures have been checked against various other sources for test years and found entirely reliable. One exception should be noted; namely, the fact that for a period of about five years around 1830 Stockton is represented by tonnage figures from the accounts of the Stockton and Darlington Railroad already cited, to make up for certain gaps in Porter's series. It should be observed that up to 1780, the series does not show annual fluctuations, several years being missing (indicated by a dashed line on the chart), while the straight line from 1771 through 1776 indicates that the figure is an average for the six-year period.

Chart VI shows quantities imported into London, of which substantially the whole amounts came from the vend area. From 1765 through 1800 the figures are London chaldrons, taken from Ashton and Sykes. They have been checked against other sources. From 1801 through 1828 the figures are also London chaldrons and are taken from an article in the *Newcastle Journal* for January 17, 1829. They agree perfectly with those given in the evidence before the Lords' Committee of 1829. The upper series, beginning in 1825, is taken from the "Report of Committee E," 1871,<sup>11</sup> and checks with official figures put in evidence before the Committee of 1836. It does not correspond precisely with the lower series for the years 1825-6-7-8 if the latter is converted into tons or the former into chaldrons; but, as can be easily seen, the direction and magnitude of change are in each case so nearly the same that any large error is out of the question.

All these charts, like the previous ones, are plotted on the same log scale to facilitate comparison of fluctuations as between different levels and different units. Chart VII shows Silberling's general price index, also plotted on the same log scale.

If we now examine these charts for long-time trends, we find nothing which could not have been reasonably expected. It is obvious at a glance that the Limitation did not significantly distort the trend picture.

<sup>8</sup> Ashton and Sykes, *The Coal Industry*, p. 250.

<sup>9</sup> Page 72.

<sup>10</sup> Third edition, Section II, chap. vi.

<sup>11</sup> Page 43.

It is still, of course, conceivable that the absolute height of either the quantity or price series, or both, might have been different had there been no regulation; but, as has already been pointed out, this cannot be put to any test and is therefore a mere speculation.

The trend of the coal price series parallels very closely that of Silberling's general price index. The trends of the two quantity series, on the other hand, are steadily upward and generally speaking at an increasing rate. The rate of increase, particularly in total shipments from the vend area, appears to turn significantly upwards around 1830. This is, of course, accounted for by the development of the foreign trade, which, according to Taylor, first became really important about 1828 and which was much increased by the reduction in export duties in 1832.<sup>12</sup> Those who would have us believe that the rate of relative expansion in British trade and industry began to increase with the so-called industrial revolution of the eighteenth century will derive small comfort from the statistics of this branch of the coal industry.

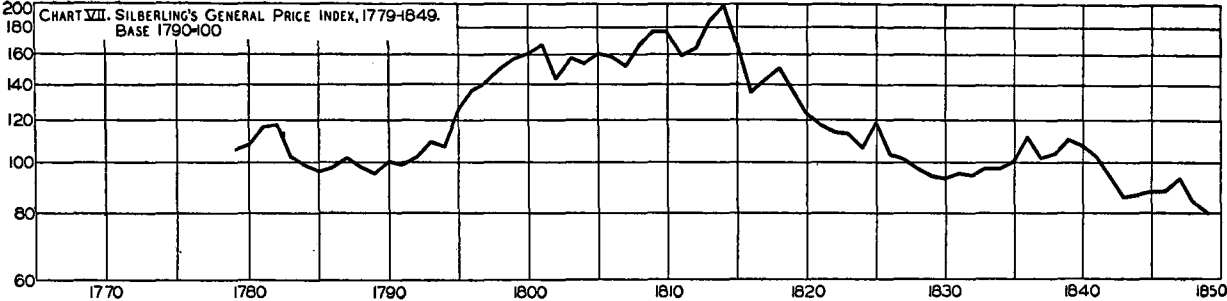
Turning to the question of the cyclical behavior of the series under consideration, it must be admitted that not very much of a positive nature emerges. The writer is not enough of a student of business cycles to be able to say anything of much weight on this subject and will have to be content with setting down a few impressions. It appears that there is only one case of what is clearly a cycle, in the modern sense of the word, indicated in all the materials consulted. That is the period lasting from the late twenties into the early forties. Depression and stagnation is followed by revival around 1834; then follows a period of extraordinary prosperity which gives way to recession around 1838. This in turn deepens into depression to be followed by revival again in 1844. Except for differences on the timing of turning points, this pattern emerges clearly in the coal price and quantity series, in Silberling's general index, and in the informative data of Thorp's *Business Annals*. Furthermore, a certain ambiguity about the turning points in the coal series is easily explained by the legislation of 1831-32, the strikes of the same years, the open trade of 1833-34, and again the strike of 1844. It would indeed be surprising if these events did not impress a certain individuality upon the behavior of the coal price and quantity statistics.

But before this cycle set in, no such agreement of sources can be cited; furthermore, to a more or less superficial observer, it seems at least doubtful whether any cyclical pattern can be discerned in any of the sets of data considered separately. This is, of course, not to deny the existence of ups and downs, of good years and bad years. The various coal series show them in great abundance, but certainly not in any regular sequence. Some of them appear to jibe well with general

<sup>12</sup> Taylor, *Observations*, p. 51.



CHART VII



price movements and the indications of Thorp's material, but others just as clearly do not. As an example of the latter, consider the years 1796 through 1801. Silberling's index shows a steady rise in general prices. Thorp reports one year of prosperity (1796) and all the rest depression; while the movement of coal prices and quantities was downward through 1798, then sharply upward, reaching record heights in 1800 and slumping off in 1801.

One is tempted to infer from indications of this sort that the economic system of England in the late eighteenth and early nineteenth century was undergoing a transformation which might be described as "ligamenization," if I may be allowed to coin a word. This process, traceable to powerful forces inherent in the capitalist system, gradually made a mutually interdependent whole out of relatively independent parts. It was only when it had proceeded a certain distance that the business cycle in the modern sense of the word, though all its elements may have been present before, could emerge. This stage, it may be suggested, was reached in the 1820's.<sup>13</sup>

What do the series before us suggest as to the effects of the Limitation in relation to specific fluctuations?

Let us first recall what we know about the Limitation prior to 1800. It was put on foot in 1771, probably going into effect a year or two later; it lapsed sometimes early in the eighties; it was reimposed about 1786, and thereafter continued in existence, with one interval of several months, until 1800. In view of this, the course of the price and quantity series is interesting. From 1773 prices rose continuously until 1782, quantities, with the exception of one downward dip, remaining substantially constant. Prices broke after 1782 and moved downward to 1788; at the same time quantities moved sharply upward, slacking off in pace in 1786. This clearly suggests that the influence of the regulation was of the first importance, and it is particularly significant as coming at a time when the obliterating tendencies of the trend forces were not pronounced. From 1786 on, the tendency of both price and quantity was upwards.

It is perhaps legitimate to infer from the fact that price went up most in this last period, imports to London next, and shipments from the vend area least, that more coal was being diverted to the London market from other markets where the increase in price was not so marked.

Let us now take the other years of known open trade and examine them for price and quantity movements.

<sup>13</sup> It is interesting to note that Marx held a view very similar to that expressed above. In the Preface to the second edition of *Capital*, he refers to the decade 1820-1830 in the following terms: "Modern industry itself was only just emerging from the age of childhood, as is shown by the fact that with the crisis of 1825 it for the first time opens the periodic cycle of its modern life" (*Capital*, Kerr ed., I, 18).

1812. Price down, shipments from the north up slightly, imports into London down. Here we may assume that the lower price in London discouraged shipments to the metropolis and thereby prevented the price from falling so low as it otherwise would have. On the other hand, the non-existence of the regulation accounts for higher total production. On the whole, this is what one would expect to be the *normal* pattern in open trades.

1824. Price down, total shipments down, imports into London up. As to quantities, this is the reverse of the expected pattern. It is easily accounted for, however, by the reduction in tax on imports to London which took place in 1824. The expected pattern reasserts itself in 1825, strengthening the presumption that open trade lasted into the latter year.

1826. Price down, total shipments up, imports into London up. This could be best accounted for on the hypothesis that prices did not fall so much in London as elsewhere. Unfortunately it cannot be checked.

1829. Price down, total shipments up, imports into London up. The same applies here as in the case of 1826.

1833-34. We shall disregard 1834 since only two months were unregulated. Price sharply down, total shipments sharply up, imports into London down. Fortunately we know something more of 1833, namely that it witnessed a large net depletion of stocks held on board ship in London. That is to say, the total quantity of coal *delivered* from ships was more than 90,000 tons greater than total imports; whereas in every other year from 1830 through 1837 the balance was the other way.<sup>14</sup> The result is that actual consumption of coal was greater than in any of the three preceding years or the next succeeding year. The low price obviously acted as a deterrent to new supply and as a stimulant to demand. At the same time the absence of regulations stimulated production and the search for new markets.

The year 1833, then, follows our expectations perfectly. It may perhaps be regarded as the type year of open trade which other years would have approximated in the absence of disturbing forces.

<sup>14</sup> Figures put in evidence by James Bentley before the Committees of 1836 and 1838 (*Report . . . of the Coal Trade*, 1836, pp. 99-100; *Report . . . on the Coal Trade (Port of London) Bill*, 1838, pp. 76-78).

## APPENDIX B

### THE AGREEMENT AMONG THE TYNE COAL OWNERS, 1835<sup>1</sup>

ARTICLES of agreement made this      day of                      1835, between the several persons whose names are subscribed, being owners or lessees of certain collieries within the counties of Northumberland and Durham.

*1st.* The owners or lessees of each of the undermentioned collieries will by a written document appoint a representative, with full powers to act for such colliery, and to bind the owner or owners during the continuance of this agreement.

*2nd.* That the representatives shall have such an acquaintance with the general management of the concerns, and the money transactions of the colliery he represents, as to be able at all times to state correctly the quantity of coals sold, and the price actually received for the chaldron or ton, of both round coals and small, and shall be responsible for any irregular allowance or other deduction from the price at which his coals ought to be sold, or for any other violation of either the letter or spirit of this agreement.

*3rd.* That the owners or lessees shall have the power of changing their representative, upon giving notice in writing to the chairman.

*4th.* That a committee for the Tyne, consisting of nine members (selected from the representatives), shall be appointed by lists to be sent from each colliery, to act for one year, subject to re-election at the end of every 12 months; but though it is desirable that the committee should consist of the number above stated, for the purpose of settling the basis for the respective ports and collieries, the committee shall nevertheless be competent to form among themselves a sub or execute one for the purpose of carrying the provisions of this agreement into effect, so that such committee shall not consist of less than three for the Tyne.

*5th.* That five constitute a quorum, that the votes be taken by ballot, and that the decision of the majority shall bind the parties to this agreement in all cases, except when an appeal is allowed.

*6th.* That the parties to this agreement will adopt the existing basis for the collieries, whose quantities are now fixed, till such quantity shall have been objected to by the committee or the representatives, and finally settled by the referees, and in settling the quantity to be allowed to any colliery, the committee or referees to be guided by the powers of working and leading, proportion of the different sorts of coal, their

<sup>1</sup> Put in evidence by Brandling before the Committee of 1836. *Report . . . of the Coal Trade*, 1836, pp. 7-9.

respective selling prices and facilities of shipment. But that in estimating the powers of the respective collieries for the purpose of fixing the basis, such portions of their respective powers as are applied to the producing of coals sold, foreign or land-sale, shall not be taken into the account.

*7th.* That impartial reference shall continue to be the great leading principle on which the arrangements of the trade must be governed, and that it must be applied to settle the quantities between the different ports or rivers, forming parties to this agreement, as well as between individual collieries.

*8th.* That before an appeal be entertained from a river or district, a majority of the representatives of the collieries of such rivers or districts must have declared their conviction of the propriety of it, and have made such request in writing to the united committee.

*9th.* That the dissatisfied river or district shall name their referee, and that the united committee shall do the same, and that these two gentlemen shall name a third as umpire, previous to their entering upon the inquiry.

*10th.* That the whole expense shall be equally divided between the appealing part and the trade at large.

*11th.* That the referees shall have the power to reduce or to augment the quantity of such appealing river or district, and such decision shall be final.

*12th.* That the above principles which are to guide the reference in the case of rivers or districts, shall be applied to individual collieries appealing from the decision of the respective committees in the district to which they belong, except that it shall not be necessary for any individual colliery to obtain leave of the committee of the river to which it belongs, to make an appeal from their decision.

*13th.* That as soon as this agreement shall be signed, the rivers and districts shall be at liberty to appeal to the present united committee, but in case no appeal is made previous to the commencement of 1836, that then no change of basis as between the rivers or districts shall take place, except at the commencement of each year, and then only in case the river or district shall have given four months' notice to the then existing united committee of their intention to make such appeal.

*14th.* That in the case of individual collieries, they shall be at liberty to appeal also as soon as the agreement shall have been signed; but in case no appeal is made previous to the commencement of 1836, then no change of basis shall be made except at the termination of any six months, and then only on the representative of any colliery giving three months' notice previous to the 1st day of January and the 1st day

of July in any year to the respective committees of his intention to make such appeal.

*15th.* That the decision of the referees shall take effect in the case of rivers or districts from the commencement of the year, in the case of individual collieries from the commencement of the six months succeeding the period when he shall have given such notice.

*16th.* That the committee or referees shall have power to summon the parties to this agreement, or their agents, to answer any interrogatories, and to produce any documents necessary to enable them to give full effect to this agreement, but such power not to justify calling for the private accounts of the colliery.

*17th.* That the parties so summoned shall, for non-attendance or refusal to answer or produce such documents, forfeit 20*l.* to be returned only in cases where an appeal to a general meeting of representatives the majority shall decide in favor of the party appealing, the committee at such meeting not to vote on the appeal against their decision; the votes at such meeting to be taken by ballot.

*18th.* That the relative prices of every description of coal be fixed by the committee and the representatives of each colliery, subject to an appeal to referees.

*19th.* That no colliery, without leave of the committee, shall vary the fixed price agreed upon between such colliery and the committee, as the selling price of that colliery, under a penalty of 5*s.* for every chaldron so sold, subject to an appeal to referees in case of dispute.

*20th.* The committee in concert with the committee of the Wear and Tees, and the other parties to this agreement, shall make such issues of round coal from time to time, as may be necessary to meet the demand.

*21st.* Any colliery where particular difficulties of shipment may be reasonably apprehended at particular seasons of the year, or other causes, may be allowed such quantity, from time to time, in anticipation thereof, as the committee shall deem proper; any colliery thinking itself aggrieved by the refusal of such leave, the claim to be decided by reference.

*22nd.* All coal to be sold by weight, either by the ton of 20 cwt. or the chaldron of 53 cwt.; any colliery found by the inspector giving overweight to be fined 2*s.* 6*d.* for each and every cwt. of excess on an average of 10 waggons; every colliery to have a weighing machine, in proper order, in a convenient situation, under a penalty of 20*l.*

*23rd.* Any colliery exceeding the issue beyond 100 chaldrons, or 2 per cent, upon the basis, to finish a ship, shall forfeit for every chaldron so exceeding 5*s.*, and such excess shall also be deducted from the issue to the colliery for the next month.

*24th.* That each party shall deposit, in the hands of trustees, a

promissory note, payable on demand, to the amount of 20*l.* per 1,000 on its respective basis, as a security for the payment of fines and the general performance of this agreement, the committee to fix the amount of fines in every case not specially provided for; the trustees to consist of the chairman and the committee.

*25th.* That the inspectors of the Tyne, Wear, and Tees, shall, as often as the committee of either river may deem it expedient, examine together the measure of all the collieries of the different ports comprehended under this agreement, that the weight per chaldron may be kept moderate and uniform, as provided in rule 22*d.*

*26th.* No freighting or upholding freights or prices to be permitted without permission from the committee of the river or district in which the respective collieries are situated under a penalty of 5*s.* per chaldron on the quantity of coals so vended, subject to reference.

*27th.* That all parties to this agreement shall strictly adhere to such regulations as to the sale of coals in London by the coal-factors as the united committees shall from time to time agree upon.

*28th.* That if, at any time, during the continuance of this agreement, the united committees shall deem it expedient, for any temporary purpose, to grant an additional issue of coals to the markets upon the coast, they shall have power to do so under such modifications and upon such terms as they may consider expedient.

*29th.* That it be imperative on the committee to enforce the penalties incurred under this agreement, and collect the same once a month, and pay the same to the Newcastle secretary for the general purposes of the trade.

*30th.* This agreement to commence on the 30th day of January 1836, and to continue from year to year, during the pleasure of the parties hereto, any of whom may withdraw, on giving six months' notice, in writing, to the united committee, previous to the end of any year after the first year, and thus terminate this agreement.

*31st.* If circumstances should arise to render it expedient that this agreement should terminate otherwise than before provided for, and that, at a meeting of the representatives of the three rivers, and the other parties to this agreement, called for that purpose, four-fifths of the parties hereto shall so think it expedient, then this agreement shall terminate.

*32d.* No party to be bound by signing these rules until they shall have been agreed to and signed by the proprietors of every colliery upon the Tyne, and until the coal owners of the Wear, Seaham, Tees, Hartley, Cowpen, and Netherton, shall have signified their willingness to act in concert with the Tyne committee upon the general principles of this agreement.

*33rd.* That in case any difference of opinion should arise between the respective committees, or any individual coal owner and the committee of the district to which he belongs, upon the construction of any of the above articles, or upon any other point not herein provided for, that the same shall be submitted to reference.



## APPENDIX C

### THE AGREEMENT OF 1627<sup>1</sup>

[19 Feb., 1626-27.]

*Orders for the vent and sale of our Cooles (that ar Ostmen of Newcastle).*

1. first yt is ordered, that all and every ostman of Newcastle upon Tyne shall giue in a Certaine rate and propotion of Coles which he intendeth to utter and sell to be Laden aboard of any ship this yeare following vntill Christmas next, and that the same shalbe hearunder sett downe.

2. Item, that noe man shall offer to put to sale any coles but such as M<sup>r</sup>. Willm Hall, M<sup>r</sup>. Thomas Lyddell, M<sup>r</sup>. Henrie Chapman, M<sup>r</sup>. Robart Bewicke, M<sup>r</sup>. Robart Anderson, M<sup>r</sup>. Lyonell Maddison, M<sup>r</sup>. Raiphe Cole, and M<sup>r</sup>. Robart Shaftoe, or the greter part of them, shall thinke and repute to be marchantable at the prizes they ar offered to be sold for.

3. Item, that the said parties aboue named, shall one in every fourteen daies, vewe all mens pitts and staythes, and shall giue notice and signeife to any that shall offer to sell any Coles which they, or the greter part of them, shall thinke not fitt to be vented and sold, And that none shall offer to sell any Coles which they, or the greter part of them shall dislyke.

4. Item, that every Ostman of Newcastle shall make true entrie in the Kings Custom House and Towen Chamber of Newcastle of all Coles by him sold and Layd aboard of any ship and paie the duties for the same.

5. Item, that every Ostman of Newcastle shall weickly, upon the munday in the forenoone, give unto M<sup>r</sup>. Thomas Lyddell, M<sup>r</sup>. Robart Bewick, M<sup>r</sup>. Robart Anderson, and Thomas Crome, or to any thre or mor of them, a perfect note of all such Coles as he hayth sold and delivered in the weicke foregoing, and shall pay unto them, or some of them, Six pence of everie Chalder of Coles so sold and delivered.

6. Item, that the same money shall by them be paid into the hands of M<sup>r</sup>. Will<sup>m</sup> Hall, M<sup>r</sup>. Robart Bewick, and M<sup>r</sup>. John Clavering, to be by them kept in a Chist to the uses following in this present Order.

7. Item, that ther shalbe a general account made by them, or the greter part of them, that kepes the bookes of account, of every Oastmans deliuerie, according to such accompts as ar weickly giuen in; fower times in the yeare, vid<sup>t</sup>, At the last day of Aprill, the second day of Julij, the third day of September, and the Seuententh day of December, And if at any of these daies of accompt y<sup>t</sup> shalbe found that any

<sup>1</sup> *Records of the Company of Hostmen*, pp. 72-74.

Ostman hayth deliuered mor Colles then according to his proportion for his rate sett downe, Then ther shalbe deliuered forth of his money paid in by six pence upon a Chalder, sixtene penc upon everye Chalder to everyone that shall have deliuered fewer then according to his proportion of his rate sett downe, and which should haue been deliuered, And shalbe soe certified by them that kepes the bookes of accompte.

8. Item, at every accompt makinge, the remainder of the moneys shalbe paid unto them that haue paid in the same.

9. Item, Yt is ordered that if any default be in any man, that shalbe shorte in his delivery, ether because his coles are not redye upon his staythes, where they should haue bene deliuered, or that his coles be reputed by the vewers abovenamed, or the greter part of us, to be not fytt to be vented to ships for the badness thereof, That parson soe shorte is not to haue paid unto him the sixtene pence of a chalder in this order aforemenconed for that proporcon which he shall soe want, and that the sixtene penc of a Chalder that should haue bene due to him shall be and remaine to the use of the fellow-ship, And these are the rates which we haue given in. And to this order and the true performance therof we haue all subscribed our names.

10. Item, if any Hostman that should weicklye haue paid in six pence of everie Chalder of Coles shall not pay the same accordinglye, Then there shalbe, that weick followinge, an accompt made up of all the deliueries, but noe part of the monyes paid in by sixpenc upon a Chalder shalbe paid to him that shall ffaile in payment therof, And he to be reputed the sole Authore of the breach of this Order, And all other parsons shalbe paid ther monyes according to the Articles as aforesaide.

	<i>tens</i>		<i>tens</i>
Sir Peter Riddell, Gouvernor . . .	300	Mr. Charles Tempest . . . . .	200
Mr. Maior . . . . .	650	Mr. William Sherwood . . . . .	160
Sir Thomas Riddell . . . . .	600	Mr. Ra: Cole . . . . .	600
Sir William Selbye . . . . .	700	Mr. Thomas Metforthe . . . . .	150
Ladye Selbye . . . . .	150	Thomas Crome . . . . .	300
Sir Rob <sup>t</sup> . Hodgson . . . . .	550	Mr. Leo: Carr . . . . .	200
Mr. Nich <sup>s</sup> . Blaxton, pro him- selfe and father . . . . .	500	Mrs. Graye . . . . .	300
Sir Nicholas Tempest . . . . .	450	Mr. Hen: Lydell . . . . .	600
Sir Thomas Tempest . . . . .	800	Mr. Hen: Milborne and Jo: Hedworth children . . . . .	200
Mr. Henry Maddysonn . . . . .	800	Mr. James pro Strother Close	300
Mr. Bewick and his sonn . . . . .	800	Mr. Raiphe Maddyson, Jo: Merleye . . . . .	300
Mr. William Hall . . . . .	650	Mr. Thomas Lyddell . . . . .	800
Mr. Jo: Claveringe . . . . .	500	Francis Bowes . . . . .	100
Mr. Rob <sup>t</sup> . Shaftoe ? . . . . .	500	Mr. Nicholas Cole . . . . .	100
Mr. Lyonell Maddyson . . . . .	500	Mr. Hen: Eden . . . . .	030
Mr. Henry Chapman . . . . .	500	Mr. Ja. Claveringe . . . . .	150
Mr. Robert Anderson . . . . .	400	Mrs. Bonner . . . . .	100*
Mr. Thomas Hall . . . . .	060		

\* The total is 14,000 tens, or about 294,000 tons.

## **BIBLIOGRAPHY**

## BIBLIOGRAPHY

TO ATTEMPT to list all the books, pamphlets, etc., dealing with the coal trade in the period 1600–1850 would be a work of supererogation in view of the extensive bibliographies assembled by Nef and by Ashton and Sykes. This list, therefore, is restricted to works which have been of genuine assistance in the study of the Limitation and works which appear to have been either unavailable to or unnoticed by previous authors.

### MANUSCRIPT COLLECTIONS, ETC.

The most important collection of documents bearing on the subject of this study is that of the North of England Institute of Mining and Mechanical Engineers, which has only recently (1930) been housed in a fireproof vault and sorted out sufficiently to allow the material to be used. It is of the greatest interest to historians in many fields. This collection has not yet been adequately catalogued, but the following description, given by Mr. T. V. Simpson in a paper read at Newcastle in 1931<sup>1</sup> will indicate the scope of the material. He classifies the papers under nine headings:

1. The Minute Books of the London Lead Company, 1692–1895; 36 manuscript volumes and 4 volumes of maps. (This series is complete and must be one of the longest continuous company records in existence.)
2. William Brown's letter-books; 2 volumes covering 1749–55 and 1765.
3. Watson Collection of books and plans, 1745–1832; 150 manuscript volumes and over 700 plans.
4. Buddle Collection of books; 54 manuscript volumes.
5. Johnson Collection, 1774–1851; 12 manuscript volumes.
6. Easton Collection, 1790–1876; 17 manuscript volumes.
7. Unthank's letters and papers, 1760.
8. Bell Collection, 1650–1850; 22 volumes, mostly newspaper cuttings, handbills, etc. This collection appears to have been meant for a history of mining by a London printer.
9. Various odd manuscript volumes, maps, and plans.

I should also mention here the records in the possession of the Durham and Northumberland Coal-Owners' Association, of which the Minute Books of the Limitation of the Vend, 1826–1847, so extensively used in this study, are apparently the earliest. For purposes of identifying the meetings which gave rise to minutes cited, the following notation has been devised:

<sup>1</sup>“Old Mining Records and Plans,” *Transactions of the Institution of Mining Engineers*, vol. LXXXI, Part 1, pp. 75–108.

- CT = Meeting of the Tyne Committee  
 CTW = Meeting of the joint Tyne and Wear Committee  
 CTTW = Meeting of the joint Tyne, Tees, and Wear Committee  
 GT = General meeting of the Tyne owners.  
 GTW = General Meeting of the Tyne and Wear owners  
 GTTW = General meeting of the Tyne, Tees, and Wear owners

For further particulars see Chapter VIII, and especially footnote 5, page 58.

Through the courtesy of Sir William Beveridge, Chairman of the International Scientific Committee on Price History, I have been able to make use of certain unpublished data on coal prices in the eighteenth and early nineteenth centuries, which are soon to appear in the Committee's study of the history of English prices.

#### PARLIAMENTARY PAPERS

- Report from the Committee Appointed to Consider of the Coal Trade of this Kingdom, with Appendix including Minutes of Evidence, June 23, 1800* (Reports of Committees, House of Commons, 1785-1802, vol. X).
- Report from the Committee Appointed to Enquire into the State of the Coal Trade of this Kingdom, with Appendix including Minutes of Evidence, December 31, 1800* (Reports of Committees, House of Commons, 1785-1802, vol. X).
- Report from the Select Committee of the House of Lords Appointed to take into Consideration the State of the Coal Trade in the United Kingdom; with the Minutes of Evidence taken before the Committee, and an Appendix and Index, 1829* (Reports; Committees. Session 1830, vol. VIII).
- Report of the Select Committee on the State of the Coal Trade, together with the Minutes of Evidence and Appendix, 1830* (Reports; Committees. Session 1830, vol. VIII).
- Report from the Select Committee on the State of the Coal Trade; together with the Minutes of Evidence, and Appendix, 1836* (Reports; Committees. Session 1836, vol. XI).
- Report from Select Committee on the Coal Trade (Port of London) Bill; with the Minutes of Evidence, Appendix, and Index, 1838* (Reports; Committees. Session 1837-8, vol. XV).
- Report of the Commissioner Appointed under the Provisions of the Act 5 & 6 Vict., c. 99, to Inquire into the Operation of that Act, and into the State of the Population in the Mining Districts, 1846* (Reports; Commissioners. Session 1846, vol. XXIV).
- Reports on the Gases and Explosions in Collieries, by Sir Henry de la Beche, Dr. Lyon Playfair, and Mr. Warrington Smyth, 1847* (Reports; Commissioners. Session 1847, vol. XVI).
- Report of the Commissioners Appointed to Inquire into the Several Matters Relating to Coal in the United Kingdom. Vol. III. Report of Committee E. Statistics of Production, Consumption, and Export of Coal, 1871* (Reports; Commissioners. Session 1871, vol. XVIII).

## BOOKS, PAMPHLETS, AND PERIODICALS

- Anderson, Robert, *A Brief Exposition of the Present State of the Coal Trade, between the Shipping Ports in the North of England and London* (Newcastle, 1839).
- Anti-Monopolist (pseud.), *Remarks on the Present State of the Coal Trade, with a Retrospective Glance at its History: Addressed to the Marquis of Londonderry, K. C. B., Lord Lieutenant of the County of Durham, etc., etc.* (London and Newcastle, 1843).
- Aristides (pseud.), *Four Letters on the Coal Trade of Durham and Northumberland, Showing the Evils of Combination among the Coalowners, with a Scheme for Remedying its Present Depression* (London, 1849).
- Ashton, T. S., and Joseph Sykes, *The Coal Industry of the Eighteenth Century* (Manchester: Manchester University Press, 1929).
- Atcheson, Nathaniel, *A Letter Addressed to Rowland Burdon, Esq., M.P., on the Present State of the Carrying Part of the Coal Trade, with Tables of Several of the Duties on Coals Received by the Corporation of the City of London* (London, 1802).
- B., A. (pseud.), *A Kind Word to the Pitmen, from a Friend in the Country* (Newcastle, 1832).
- Beaumont, Charles, *A Treatise on the Coal Trade* (London, 1789).
- Castor (pseud.), *A Letter on the Dispute between the Coalowners and the Pitmen* (Newcastle, 1832).
- Colliers of the United Association of Durham and Northumberland, *A Voice from the Coal Mines; or a Plain Statement of the Various Grievances of the Pitmen, of the Tyne and Wear* (South Shields, 1825).
- Cursory Remarks on Bread and Coal* (London, 1800).
- Dale, H. B., *The Fellowship of Woodmongers — Six Centuries of the London Coal Trade* (London, undated; certainly after 1921).
- Dendy, F. W. (editor), *Extracts from the Records of the Company of Hostmen of Newcastle-upon-Tyne*, Vol. 105 of the Publications of the Surtees Society (Durham, 1901).
- Dunn, Matthias, *An Historical, Geological, and Descriptive View of the Coal Trade of the North of England* (Newcastle-upon-Tyne, 1844).
- Dunn, Matthias, *A Review of a Pamphlet Entitled, "Observations, Addressed to the Coal Owners of Northumberland and Durham on the Coal Trade of those Counties," by T. John Taylor* (Newcastle, 1846).
- Dunn, Matthias, *A Treatise on the Winning and Working of Collieries* (Newcastle-upon-Tyne, 1848).
- The Economist*, 1843-1845.
- Edinburgh Review*, vol. LI (April, 1830), pp. 176-193. Review of the evidence taken by the Lords' Committee, 1829.
- Edington, Robert, *A Treatise on the Abuses of the Coal Trade; Commencing with the Shipping of Coals in the Principal Ports of the North, and Proceeding with the Carrying Trade, Delivery, etc. More Especially in the*

- Port of London; the Impositions to which the Dealers and Consumers are at Present Liable with Hints and Suggestions for the Amelioration and Remedy* (2nd Edition, London, 1817).
- An Exposition of the Real State of the Coal Trade* (Durham, 1830). From the *Durham Chronicle*, Feb. 13, 1830.
- Engels, Friedrich, *The Condition of the Working Class in England in 1844* (New York, 1887).
- Forster, T. E., "Collieries and the Coal Trade," from *History of Northumberland*, vol. XIII (Newcastle, 1930).
- Galloway, R. L., *Annals of Coal Mining and the Coal Trade*, 2 vols. (London, 1898-1904).
- Gilbert's Railways of England and Wales* (London, 1838).
- Hardie, David, *Taxation of Coals, Considered in an Address to the Inhabitants of London and Westminster, and all Places Supplied with Coals from the Port of London* (London, 1792).
- Holland, John, *The History and Description of Fossil Fuel, the Collieries, and Coal Trade of Great Britain* (London, 1835).
- Lambert, R. S., *The Railway King, 1800-1871: A Study of George Hudson and the Business Morals of His Times* (London: G. Allen & Unwin, Ltd., 1934).
- The Late Measures of the Ship-Owners in the Coal Trade fully Examined in a Letter to the Rt. Honorable William Pitt* (London, 1786).
- Latimer, John, *Local Records; or, Historical Register of Remarkable Events, which have Occurred in Northumberland & Durham, Newcastle-upon-Tyne and Berwick-upon-Tweed . . . 1832-57* (Newcastle, 1857).
- Levy, Hermann, *Monopoly and Competition, A Study in English Industrial Organisation* (London: Macmillan, 1911).
- Levy, Hermann, *The New Industrial System* (London: G. Routledge & Sons, Ltd., 1936).
- Lewin, H. G., *Early British Railways, a Short History of Their Origin and Development, 1801-1844* (London: The Locomotive Publishing Co., Ltd.; New York: Spon and Chamberlain, 1925).
- MacNab, H. G., *A Letter Addressed to John Whitmore, Esq., M.P., Member of the Committee of the House of Commons on the Coal Trade. Pointing out the Impolicy of the Proposed Measure of Obtaining a Supply of Coal from the Manufacturing Districts to the Metropolis; the Causes of the High Price of Coal, and the Means of an Immediate and Continued Reduction of Price* (London, 1801).
- MacNab, Dr., *Letters Addressed to the Right Honorable William Pitt, Chancellor of the Exchequer of Great Britain; Pointing out the Inequality, Oppression, and Impolicy of the Taxes on Coal: and a Substitute for these Taxes on all Coals Consumed in England and Scotland. Also, a Substitute for the Grant of one Shilling per Chalder to the Duke of Richmond, by King Charles II* (London, 1793).

- Meynall, Thomas (chairman), *A Report Relative to the Opening a Communication by a Canal or a Rail or Tramway, from Stockton, by Darlington, to the Collieries* (Stockton, 1818). Drawn up by "a Committee appointed by the numerous and respectable Meeting held at Darlington on the 4th of September last."
- Miners of Framwell Gate Moor Colliery, *A View of the Pitmen's Strike, in Answer to a Letter in the Durham Chronicle, of June 14th, Signed by "an Overman"* (Newcastle, 1844).
- Nef, J. U., *The Rise of the British Coal Industry*, 2 vols. (London, G. Routledge & Sons, Ltd., 1932).
- Neuman, A. M., *Economic Organisation of the British Coal Industry* (London: G. Routledge & Sons, Ltd., 1934).
- Observations on the Duty on Sea-Borne Coal; and on the Peculiar Charges on Coal, in the Port of London* (London, 1831).
- Philanthropos (pseud.), *The Two Subjects which Remain in Dispute between the Coal Owners and the Pitmen* (Newcastle, 1831).
- Philanthropos (pseud.), *A Second Letter, Addressed to the Pitmen of the Tyne and Wear, on the Subject of Their Dispute with the Coal-owners* (Newcastle, 1831).
- Porter, G. R., *The Progress of the Nation, in its Various Social and Economical Relations, from the Beginning of the Nineteenth Century* (New edition, London, 1851).
- Railway Reform; its Expediency and Practicability Considered, with a Copious Appendix, Containing a Description of all the Railways in Great Britain and Ireland* (London, 1843).
- Report by the Committee of the Coalowners Respecting the Present Situation of the Trade* (Newcastle, March 10, 1832).
- Report of the Trial of the Pitmen, for the Riot at Waldrige Colliery at the Durham Spring Assizes* (1832).
- Report of the Trials of the Pitmen and Others, Concerned in the Late Riots, Murders, etc., in the Hetton and Other Collieries, at the Durham Summer Assizes* (Durham, 1832).
- Report of the Special Committee Appointed by the Coal-owners of Northumberland and Durham, Respecting the Cessation of Work by the Pitmen, Read at a General Meeting of the Trade Held at Newcastle-upon-Tyne, on the 27th of April, 1844* (Newcastle, 1844).
- Report of the Miners' Committee in Answer to the One Drawn up by the Coal Trade Committee* (Newcastle, 1844).
- Richardson, M. A., *The Local Historian's Table Book, of Remarkable Occurrences, Historical Facts, Traditions, Legendary and Descriptive Ballads, etc., etc., Connected with the Counties of Newcastle-upon-Tyne, Northumberland, and Durham* (London, vol. I, 1841; vols. II, III, 1843; vol. IV, 1844; vol. V, 1846).



- Richmond, William, *A Letter to R. W. Brandling, Esq., Chairman of the Committee of Coal-owners at Newcastle-upon-Tyne, on the State of the Coal Trade* (Newcastle, 1829).
- Rules and Regulations, and the Formation of a Society, to be Called the United Association of Colliers on the Rivers Tyne and Wear* (Newcastle, 1825).
- Scott, W., *An Earnest Address, and Urgent Appeal, to the People of England, in Behalf of the Oppressed and Suffering Pitmen, of the Counties of Northumberland and Durham* (Newcastle, 1831).
- Scrutator (pseud.), *An Impartial Inquiry into the Existing Causes of Dispute Between the Coal Owners of the Wear and Tyne, and Their Late Pitmen* (Newcastle, 1832).
- Simpson, T. V., "Old Mining Records and Plans," *Transactions of the Institution of Mining Engineers*, vol. LXXXI, Part 1, pp. 75-108. (A paper read at Newcastle, Feb. 21, 1931.)
- Stevenson, John, *Observations on the Coal Trade in the Port of Newcastle upon Tyne, with a Comparative View of the Two Bills Brought into the House of Commons Last Session, by the Right Hon. Lord Mulgrave, and Sir Matthew White Ridley, also a fair State of the Parliamentary Speeches, and of the Evidence given to the House, for and against Lord Mulgrave's Bill, with Free Remarks on Each* (London, 1789).
- A Table for 1840, 1, 2, 3, 4, Shewing the Variations in the Highest Price of the Best Sunderland Coals in the London Market.* (In the British Museum.)
- Taylor, T. J., *Observations, Addressed to the Coal Owners of Northumberland and Durham on the Coal Trade of Those Counties: More Especially with Regard to the Cause of, and Remedy for, Its Present Depressed Condition* (Newcastle, 1846).
- Telltruth, T. (pseud.), *A Dark Story; or, a Brief Development of the Nefarious Conduct of the Black-Diamond Mongers, with Regard to the Present System of the Coal Trade* (London, 1815).
- Tunbelly, Tim (pseud.), *Nuisances on the River Tyne. The Staiths and the Keelmen* (Newcastle, 1824).
- An United Collier, *A Defence of the Voice from the Coal Mines, in Answer to the "Brief Observations" in Reply to that Pamphlet* (Newcastle, 1825).
- Welbourne, Edward, *The Miners' Unions of Northumberland and Durham* (Cambridge, England: 1923).
- Welford, Richard, *History of Newcastle and Gateshead*, 3 vols. (1887).
- Williams, D. J., *Capitalist Combination in the Coal Industry* (London: The Labour Publishing Co., Ltd., 1924).

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