SPECIAL MEMORANDUM No. 10.

COAL

EXPORTS, PRICES, AND PROSPECTS

BY

A. J. SARGENT

December, 1924.
EXECUTIVE COMMITTEE.

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COAL
EXPORTS, PRICES, AND PROSPECTS

By A. J. SARGENT

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<td>1923</td>
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<td>1924</td>
<td>9</td>
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A reasonable stability in production and price of the basic commodity, coal—a return to the normal—is undoubtedly one of the chief needs of industry and trade in Britain as elsewhere; but since the war the coal business has suffered from a series of fluctuations which, without exaggeration, may be styled violent. These fluctuations have been associated mainly with the export trade, as the slow revival of industry has provided little incentive to activity at home.

The Years 1920-21.

In 1920, under the influence of artificial post-war conditions, the total output was only 229 mn. tons—58 mn. less than in the record year, 1913—while the output per person employed had fallen from 280 tons in 1913 to the very low level of 137 tons. Instead of the 73.5 mn. tons of 1913, the surplus available for export was a mere 25 mn., and would have been much smaller but for the greatly-reduced demand for bunker coal (7 mn. less than in 1913), due to the depression in world trade and shipping. The needs of home industry were supplied at a price which did not cover cost of production, while the foreigner, pressed for supplies of coal owing to the great deficit in continental output, paid as much as six times the average pre-war price and high freight rates in addition. Inevitably he turned to alternative sources. The United States, whose transatlantic coal trade was almost negligible in 1913, shipped in 1920 over 13 mn. tons to Europe and between 3 mn. and 4 mn. tons to South America. The approximate figures for Great Britain were 20 mn. and 15 mn. tons as compared with 57 mn. and 7 mn. in 1913. Small production and high prices threatened to destroy the foreign trade, while the mining industry at home could only be sustained by subsidies. A return to economic conditions was possible only through drastic reduction in costs; in these costs wages were

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<tbody>
<tr>
<td>Cardiff 2nds f.o.b. about</td>
<td>25 0</td>
<td>39 6</td>
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<tr>
<td>Freight to Egypt</td>
<td>14 6</td>
<td></td>
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</tbody>
</table>

Diagram 1 illustrates further the relative position of the two countries throughout the year.
In spite of the opportunities provided by the collapse of British exports, the total shipments by America across the Atlantic only reached 57 mn. tons, less than half those of the previous year. The fall in British prices was accompanied by, or rather mainly due to, a fall in wages; earnings per man-shift in the last quarter of the year were 12s. 8d. as compared with 19s. 2d. in the first quarter, and profits were low or non-existent. From no point of view can the year's movement be considered normal. Even at the end, though we were regaining the European market, it was only at the cost of great sacrifice both of profits and wages. Conditions in the mining industry could hardly be regarded as satisfactory or stable, while the protection afforded by American exchange and high freight rates was only temporary.

The general figures for the year 1922 suggest, at first sight, a closer approximation to the normal than in 1921. Total output rose from the low level of 1921 to nearly 250 mn. tons. This compares with the record of 287 mn. tons in 1913. The mean weekly output in the latter part of the year was above the 5 mn. ton level and employment was fairly regular. On the other hand, profits were absent or negligible in most of the smaller fields throughout the year, and in some of the larger fields in the second quarter. For the profits of the whole industry the exporting areas were mainly responsible. Earnings fell, though there was a slight recovery towards the end of the year. Approximate earnings per man-shift for each quarter were 11s.; 10s. 2d.; 9s. 4d.; 9s. 4d.

The export business again was the dominant factor in the industry. How far can this factor be considered normal or stable? In view of the depressed state of industry abroad, a total export of 64 mn. tons as against 73 mn. in 1913 strongly suggests a return to normal conditions. The impression is confirmed by the fact that F.O.B. prices, after a slight fall in January, remained fairly steady throughout the year, in marked contrast with the conditions of 1921.

The summarised figures, however, tend to obscure the essential facts. While Continental Europe took about 85 per cent of its pre-war quantity, many individual markets, both within and without Europe, took far less than their former share. The comparative table speaks for itself:

<table>
<thead>
<tr>
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<th>1921</th>
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<th>1923</th>
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<tr>
<td>Germany</td>
<td>99</td>
<td>8</td>
<td>81</td>
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<tr>
<td>Holland</td>
<td>20</td>
<td>18</td>
<td>61</td>
</tr>
<tr>
<td>Belgium</td>
<td>123</td>
<td>64</td>
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<td>France</td>
<td>125</td>
<td>96</td>
<td>36</td>
</tr>
<tr>
<td>Russia</td>
<td>57</td>
<td>51</td>
<td>63</td>
</tr>
<tr>
<td>Scandinavia</td>
<td>10</td>
<td>12</td>
<td>16</td>
</tr>
<tr>
<td>Rest of Europe</td>
<td>35</td>
<td>29</td>
<td>29</td>
</tr>
<tr>
<td>South America</td>
<td>69</td>
<td>14</td>
<td>37</td>
</tr>
<tr>
<td>Canada and Mexico</td>
<td>78</td>
<td>59</td>
<td>59</td>
</tr>
<tr>
<td>India</td>
<td>18</td>
<td>12</td>
<td>19</td>
</tr>
<tr>
<td>Other Countries</td>
<td>187</td>
<td>62</td>
<td>159</td>
</tr>
<tr>
<td>Total</td>
<td>714</td>
<td>247</td>
<td>548</td>
</tr>
</tbody>
</table>

The shipments to Western Europe are clearly abnormal, and would be so, in view of the depressed state of industry generally, even if they only reached the level of 1921. The greater part of the continental deficit is accounted for by the lowered output of the pre-war German region, due to reduced hours and inefficient working, together with the shortage in the devastated mining areas of France.
The German figures are not easy to follow owing to the change in the Silesian boundary; but the deficit in the Ruhr district alone was not far short of 20 mn. metric tons as compared with 1913. This represents a reduction in gross output of about 16 per cent. The situation in Western Europe explains only in part the rise in the total of British exports. The figures show to what extent our other markets in Europe were lacking, as compared with 1913. India, owing to somewhat exceptional conditions, accounts for part of the surplus, but the remainder is hidden under the general term "Other Countries" in the schedule. This item indicates the reaction of American conditions on the British coal industry.

**Diagram 2.**

(A) U.K. total monthly exports of coal.  
(B) U.K. exports to Germany, Holland, France, Belgium.  
(C) U.K. exports to "Other Countries."  
(D) U.K. average f.o.b. prices.

By December 1921 the export of American coal to European markets had declined to its pre-war level (see Diagram 1). American prices remained relatively high, and the rapid fall, noted above, in British prices enabled British coal once more to move westward across the Atlantic. The strike in the American fields, starting at the end of March 1922 and lasting into August and September, gave a sharp impetus to this movement. The effect of the strike was not evident at once, owing to the fact that partial production was maintained by the large number of non-union mines, while stocks were high and industrial demand slack, so that there was no marked rise in prices until July. From that month onwards British exports to America rose sharply, and the trade naturally continued for some time after the settlement. As this settlement involved no drastic reduction in costs, and the status quo was continued until the following spring, British coal was still selling on the coast of America at the end of the year. The future of this trade depended on the extent to which the American coal industry in the spring of 1923 might return to more economic conditions and lower prices. In January 1923, American dealers were still looking to the possibility of British supplies in the event of another strike or of legislation affecting adversely cost of production in the American coal industry. At the same time, the rate of exchange for sterling was improving and European production was growing, though slowly. On both sides of the Atlantic the outlook for British trade was uncertain, since the abnormal advantages of 1922 could scarcely be expected to last. Even in that year, wages in many districts touched the legal minimum, under the agreement of 1921, and miners, with wages only about 40 per cent above 1914 rates, in face of a cost-of-living increase of 160 per cent, were among the worst-paid industrial workers. It is no matter for surprise that the Advisory Committee on coal reported in December 1922 that there was no prospect in the then existing conditions of a lowering of the average pit-mouth price, and that a reduction of costs could be obtained only by a greatly-increased demand for industry. Prices of coal exported rose somewhat owing to the strike in America and remained moderately high at the end of the year, with a slightly improved demand at home. The immediate future of the industry, however, seemed to be bound up on the Continent with the question of the recovery of "efficiency" in Germany and the rate of repair of the mines of Northern France, and in America with the very uncertain factor of policy.
THE YEAR 1923

Judged by total output, the year 1923 with 276 mn. tons comes into the same category as 1913 with its record of 287 mn. tons; in the last quarter of the year the approach was even closer, the total of saleable coal raised being 72 mn. tons as compared with 73 mn. in the corresponding quarter of 1913. The two years, however, differed in certain important respects; the output in 1923 was obtained only by the employment of 8 per cent. more wage-earners, and increased assistance in the form of mechanical cutters and conveyors. The actual rate of output per man was rather lower than in the last quarter of 1922 and considerably lower than in 1914.

The effect of the reduction of the working day is clearly visible, though if allowance be made for the lost hour the output per man-shift appears to be slightly greater efficiency of labour or to other causes, but the fact remains that the reduction in production on such a basis can scarcely be said to be normal in the sense that there were no serious disputes, while employment was more regular than in any recent year. The improvement shown in 1923 is not excessive. From the standpoint of the mine-owner the average rate of "profit" is distinctly low, in view of the special character and risks of the industry, while part of the difference between "costs" and "proceeds" is not discernible in any ordinary sense. The fact that one section of the industry shows a definite loss even in a year of full activity also suggests that, as regards profits, there is a very solid basis of truth in the statement of the Committee noted above. As to wages, the earnings per man-shift indicate a low level of weekly wages, even with full-time working, as compared with the level in other large industries. Such are the conditions in a year of large output and regular employment. The Committee seems justified in its opinion that in the circumstances neither "profits" nor wages could be expected to provide for any reduction in the price of coal. The remedy suggested was still larger production, without a corresponding increase in some of the items of output per man-shift.
cost other than wages. Such production could be only in response to a larger demand for industry at home. There is an assumption underlying this view, an assumption which needs testing; it is that the conditions in the export business were sufficiently stable to be used as a basis for future estimates.

Let us consider the position in 1923, as throwing light on this question. Broadly, industry took considerably less than in 1913 and the export trade considerably more, while the highest profits accrued to areas most interested in export. On further analysis, the output of the year can hardly be regarded as normal or a firm basis for calculations as to the future. It is not impossible that there may be growth of demand in one market offset by decline in another. Only if internal and external movements coincide shall we find the conditions favourable to greatly increased output. At home there is the prospect of increased consumption of coal as industry in general recovers, discounted to some extent by economies both in industrial and domestic use enforced by experience of high prices.

The future of the foreign market is more difficult to estimate; but there are indications in the course of events in 1923 which are of vital significance. In some aspects the year is no less abnormal than 1922.

The general movement of the exports of British coal is shown in the diagram (3), which should be compared with that for 1922. Starting from a very low level in January 1922, a level marking the partial recovery after the troubles of 1921, exports, after some fluctuations, rose in the late summer to a point well above the mean monthly level of 1913. By the end of the year, however, for reasons already discussed, it had fallen again below that level. The fall was somewhat steep, though the level in December was still far above that of the preceding January. The fall was continued into January 1923. The movement is then reversed suddenly, and an exceptionally high point is reached in May. After a moderate decline, a secondary high point is recorded in October. Then follows a rapid fall almost to the January level and this fall is continued into the early part of 1924. The movement appears to be as abnormal as that of 1922, while the fluctuations are more pronounced, though the mean level of trade is higher.

Other series of figures may help to elucidate the nature of these fluctuations. Let us consider first the exports to the Western European “block” - Germany, Holland, France and Belgium. From the middle of 1922 this region, with its production disorganised and insufficient for its needs, bought a steadily growing quantity of British coal. There were no very violent fluctuations, and prices of exported coal were fairly steady throughout the year; but the trade showed a distinct tendency to slacken in December. In 1923, on the other hand, the European trade shows strong movements both up and down, and these correspond closely with those of the general export trade. A further contrast with 1922 is to be seen in the curve of export prices, which shows a marked rise and fall during the year. It is noteworthy, also, that a rise in the quantity exported is accompanied by a rise in prices, in contrast with the conditions of 1921 and 1922. Evidently further analysis of the circumstances is needed to arrive at an explanation.
Europe, as before the war, was our chief customer for coal.

<table>
<thead>
<tr>
<th>British Coal exported to Europe</th>
<th>Av. Price f.o.b.</th>
<th>Coal exported to all markets</th>
</tr>
</thead>
<tbody>
<tr>
<td>1913</td>
<td>50.2</td>
<td>41.7</td>
</tr>
<tr>
<td>1922</td>
<td>48.5</td>
<td>22.1</td>
</tr>
<tr>
<td>1923</td>
<td>60.5</td>
<td>25.7</td>
</tr>
</tbody>
</table>

We are dealing here with price figures of a very different order from those of 1920-21, and small variations may bear great significance. The export of coal to all destinations was actually higher than in the record year 1913, in spite of the universal industrial depression. Such export, from a total output smaller than that of 1913, was possible only because the demand for home use was slack, while, owing to the depression in shipping and to the substitution of oil for coal, bunkers accounted for nearly 3 mn. tons less than in 1913. The conditions are evidently peculiar. Europe remained the dominant market, but not the Europe of 1913. A few comparative figures only are necessary to make this fact plain.

<table>
<thead>
<tr>
<th>Exports of British Coal (Mn. tons)</th>
<th>1913</th>
<th>1922</th>
<th>1923</th>
</tr>
</thead>
<tbody>
<tr>
<td>To Germany, Holland, France, Belgium</td>
<td>25.7</td>
<td>31.5</td>
<td>47.0</td>
</tr>
<tr>
<td>Rest of Europe</td>
<td>31.0</td>
<td>18.6</td>
<td>14.0</td>
</tr>
<tr>
<td>All other markets (including Irish Free State)</td>
<td>65.7</td>
<td>57.7</td>
<td>41.0</td>
</tr>
<tr>
<td>Total</td>
<td>74.4</td>
<td>64.2</td>
<td>55.8</td>
</tr>
</tbody>
</table>

It is evident, from these figures, that the Franco-German area took far more than its pre-war share of the total trade; other markets, both within and without Europe, were taking less than their share. In fact they took slightly less in 1923 than in 1922. They were either consuming less, as still suffering from post-war depression, or they were obtaining supplies from other than British sources.

Let us turn to another group of British figures for further light on the problem. We find the export of furnace coke for the year to be 275 mn. tons as compared with 340 in 1922 and only 123, including gas coke, in 1913. The full meaning of this total for the year becomes clear only from a consideration of the figures of monthly movement (see Diagram 4). For the first six months the quantity exported varies within very moderate limits. From July to October there is a rapid increase, followed by an equally rapid decrease, though the trade in December is still above the level of that of the first half of the year. The course of prices is also of interest, as the price and quantity curves are far from synchronising. Prices, moderate in January, rose with a bound and by April-May had nearly doubled. From that point, with a slight check in July-August the movement was downward, though in December prices were still well above the January level. The export of coke, on the other hand, did not reach its maximum until October. Coal export prices also show a rise to midsummer, followed by a fall, but the movement is less violent than in the case of coke, while the quantity curve shows two distinct maxima, in late spring and in autumn. The groups of figures are closely related and the boom both in coal and coke can be traced to a common source—the occupation, in January, of the Ruhr, with all its economic consequences.
In 1922 the German deliveries of fuel to France on reparations account, though much in arrear, amounted to the equivalent of some 10 mn. tons of coal. In 1923 the total, including that seized, was equivalent to little more than 4 mn. tons. On the other hand, the French fields were still suffering from the destruction of the war; there was a deficit of about 6.5 mn. tons as compared with 1913, in the output of the northern districts. The occupation of the Ruhr in January was followed by a rapid fall in the output of the region; by midsummer it was negligible, except for less than 10 per cent of the former total due to the continued working of the non-occupied area.

Diagram 5.

Monthly coal production of Ruhr:

(A) 1923.
(B) 1924.
(C) 1922.

The output for the whole region for the year was a little over 40 mn. tons as contrasted with over 90 mn. in 1922. Variations in the curve of British exports in the summer reflect to some extent estimates from time to time of the probability of a settlement. Though production improved slightly in the autumn there was no real recovery until December, following on the agreement in November between the representatives of German industry in the Ruhr and the M.I.C.U.M. (Mission Interalliée de Contrôle des Usines et des Mines). At the same time British exports to the “group” begin to decline. At the time of greatest shortage British coal penetrated to the Ruhr itself, as well as to other inland German markets.

The comparative figures best summarise the position:

<table>
<thead>
<tr>
<th>EXPORTS OF COAL.</th>
<th>Mn. tons.</th>
</tr>
</thead>
<tbody>
<tr>
<td>To Germany</td>
<td>8.9 14.8 8.3</td>
</tr>
<tr>
<td>Holland</td>
<td>2.0 6.8 6.1</td>
</tr>
<tr>
<td>Belgium</td>
<td>1.5 6.7 1.5</td>
</tr>
<tr>
<td>France</td>
<td>12.8 18.8 13.6</td>
</tr>
<tr>
<td>Rest of Europe</td>
<td>31.0 18.4 16.8</td>
</tr>
</tbody>
</table>

Moreover, France alone took nearly 3 mn. tons of coke as against 0.7 mn. tons in 1922. Thus a comparison of 1913 and 1922 illustrates the effect on British exports of the low level of production on the Continent. Less coal was consumed but more was imported. In 1923 the abnormal conditions were exaggerated by the complete collapse for the time of the most important producing area. The boom in exports is seen, therefore, as the temporary outcome of purely political conditions. The sudden rise in the price of coke was due to the pressure of Continental demand on existing supplies. British users suffered acutely in the first rush and until concessions were made to the home market. The quantity and price curves do not coincide, since producers were slow to increase their output to meet conditions which might be of very short life.

The position of the European coal market was sufficiently abnormal to affect trade on the other side of the Atlantic. In 1923, after the collapse of 1922, the overseas export of coal from the United States reached its pre-war level, though its distribution was not the same. Of the total of about 5 mn. tons, nearly half was on European account, whereas in 1913 very little crossed the Atlantic. France, Italy, Holland and Germany were the chief buyers. Some coke was also forwarded to France, Belgium, and Germany.
and Germany. The distribution, in time, of these shipments is noteworthy: they were confined for the most part to the middle of the year; the movement in the first and last quarter is insignificant.

It is interesting, as bearing on the future, to compare the price curves for exported coal in the United Kingdom and the United States. The one shows a steady fall throughout the year, while the other rises and then falls again. In fact, the one is responding mainly to internal and the other to external conditions.

**Diagram 6.**

(A) Prices of South Wales "Seconds" at Cardiff.
(B) Prices of Pool 1 at Hampton Roads.
(C) U.K. average export prices of all coal.

The total American output of bituminous coal in the year was 487 mn. tons—considerably more than was needed for home consumption. It was a record year for overproduction, though many mines were only working part-time. Prices and wages fell in non-union fields, and, as the year progressed, many union mines closed down rather than pay the agreed rate of wages. In spite of the surplus available and the fall in price at the seaboard, shipments declined greatly in the autumn. The diagrams suggest that this was not unconnected with the lowering of British prices after the first boom. American trade with Europe, in spite of the opportunity, was a mere shadow of that which we have noted in 1920 and 1921. The fact, however, remains that the United States, in full working, has an immense actual surplus after its own needs are satisfied, and that prices have fallen there to somewhere near an economic level. The mechanism of export is being enlarged and improved; the question of competition is merely one of delivery price in the markets of Europe and South America. The factor of freight in this price was reduced in 1923; rates in some cases nearly touched the 1913 level. The fall in freights and the appreciation in sterling both operate in favour of America. The situation in December 1923 is shown roughly by the following approximate figures (dollars converted to sterling at current rate):

<table>
<thead>
<tr>
<th>Month</th>
<th>Price per ton</th>
<th>Freight per ton</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hampton Roads (Pool 1)</td>
<td>20 7 7 5 5</td>
<td>14 3 3 3 3</td>
<td>35 0 0 0 0</td>
</tr>
<tr>
<td>Cardiff (seconds)</td>
<td>28 0 0 0 0</td>
<td>9 9 9 9 9</td>
<td>37 1 1 1 1</td>
</tr>
</tbody>
</table>

There does not seem to be much room here for a large price variation in either country without risk of loss of markets.

**The Year 1924.**

If regard be paid only to quantity produced, the mining industry in the early part of 1924 has some appearance of prosperity. In spite of trouble on the railways and at the docks, the output in February-March reached a higher level than in any month in 1923, and the rate if continued would have resulted in a greater total than in 1923. April, however, was a turning-point; from that month onwards there is a steady decline to a level below that of 1923. The first quarter of the year was not unprofitable, but wages were at the minimum in many districts and low in others. In May the new agreement gave a larger share of the proceeds of sales to labour. In the following months profits were replaced by losses, mines began to close down, and the number of unemployed in the industry reported as claiming under the Insurance Acts rose from 26,000 on April 28 to 130,000 on October 27th. The output of the early summer was as great as that of the previous autumn, but the disposal of the product was different. The decline in exports to Western Europe, which started in November, continued to April, and the movement was reflected in the total of exports, though some slight compensation was found in sales to markets which had been neglected during the boom period. Moreover,
there was some improvement in the home demand for industry and domestic use sufficient to enable the market to absorb for a time the large output. Even the Western European group still bought more than in 1913, so that prices for the first quarter remained steady, with a slight tendency to rise. In May the exports to Western Europe rose sharply, only to fall again in June, with equal sharpness. From this month the movement was slowly downward to October. Total exports, however, show a recovery in July due to increased shipments to other parts of Europe and the Mediterranean. Prices follow the state of the market; after reaching a point in April higher than at any time since the previous summer, they dropped steadily to the level from which they started to rise in January 1923. Falling prices and diminished output were evidence that the foreign market was still the dominant factor in the industry; the home market was too weak to absorb the surplus. The conditions, therefore, of the foreign market merit careful consideration.

Diagram 7.
(A) U.K. total exports of coal.
(B) U.K. exports to Germany, Holland, France, Belgium.
(C) U.K. average f.o.b. prices.

On the Continent, France was still our chief customer, but the reconstruction of the ruined mining region reached such a stage in the summer that the output was near that of 1913. For the iron districts of Eastern France, and for the remainder of the Western European market, the key to the position is to be found in the coal of the Ruhr and the change in German policy. Towards the end of November 1923 the German industrialists came to an agreement with France and Belgium and shipments of Ruhr coal were resumed. Financial conditions were improved by the adoption of the new mark, but there was much leeway to make up, and progress was necessarily slow. German prices towards the end of the year were still higher than British, but the difference was due less to real costs than to taxes and levies under reparations. At the beginning of 1924, prices were lowered to a more competitive level, in view of the extension of working hours, while a coal sales syndicate was re-established. By February, in spite of deficiency of transport, the output of the Ruhr was above that of January 1923, though it was still short of the average of 1922 or 1913. In March it was still rising; but the position was unstable (see Diagram 5). According to a statement laid before the M.I.C.U.M. (Mission Interalliee de Controle des Usines et des Mines) the original cost of coal was about 15 marks per ton; but after allowances for miners' coal, for coal on reparations account and for taxes and arrears of taxes, the cost of the saleable output was over 28 marks, while the sale price was 20-21 marks. With abnormal reparation charges eliminated, these figures seem to show a fair margin for profits, and costs considerably below those of the United Kingdom. In spite of these losses, coal for Hamburg was being sold in the Ruhr by the Syndicate at 16 marks, in order to meet British competition, while local consumers were paying an extra high price by way of compensation. This is a revival of the usual German pre-war method of promoting exports. By March the output per man-shift was not far short of that of 1913, though weekly output was still restricted by deficiency in the number of working days owing to lack of transport. The question of the revision of the M.I.C.U.M. agreement was still in suspense, and while the miners demanded an increase on the ground that wages were lower than in 1913, the owners pointed to the fact that mines were already running at a loss. The
The dispute on the Ruhr was ended after a month on the basis of a 20 per cent. increase in wages and an eight-hours day until November. Work was resumed, and in June production had recovered to its February level. The decline in British exports to Western Europe was also resumed. From the figures above it is clear that Germany was approaching the conditions of 1913 both as to output and price.

Recent history has shown that America may intervene in a decisive fashion in the coal markets of Europe. The conditions, therefore, in her coal industry have a direct bearing on the coal trade of the United Kingdom. From the beginning of April the existing high wage level in the United States was stabilised for three years. The natural outcome of this agreement would be stable conditions for labour and the maintenance of a fairly high price level. There is, however, another side to the question. A depression in the coal business began in February and increased steadily in intensity. By midsummer the output of bituminous coal was lower than in any period except that of the strike in 1922. The reason assigned for losses was in nearly all cases a "no market." The existing mines in the United States have a proved capacity far greater than the maximum consumption of the home market in periods of activity; the surplus is likely to seek for an outlet abroad. The alternative is an adjustment of the industry by the closing down of the less profitable mines and a reduction of the labour force. This might tend to keep up prices and so affect the possibility of exporting. Here a complication is introduced owing to the organisation of labour. Only part of the mines are subject to union conditions. At midsummer the union districts were working on very short time, while most of the coal coming forward was from non-union mines. According to one estimate, non-union mines in West Virginia could produce at $1.75 as against a cost of $2.75 in union mines with their higher labour cost. Even at the higher rate, costs are sufficiently low in comparison with those in Great Britain. Such conditions can hardly be regarded as stable, and any modification of the three years' agreement must necessarily be in the direction of lower costs and prices, and therefore affect the conditions of competition in the export business.

In December 1923, exports from the United States to Europe and South America had fallen to the modest level of about 100,000 tons, as compared with nearly 600,000 in May of that year. On the other hand, loading facilities at Hampton Roads were being improved and American operators were definitely looking forward to a permanent extension of the export business. The railway and dock trouble in the United Kingdom was at once reflected in increased orders and inquiries on the other side of the Atlantic. America is clearly becoming a permanent element in the European coal market, favoured specially at the moment by the surplus of tonnage available and consequent low freight rates. During the first half of the year American shipments both to Europe and South America were generally on a higher level than in the last quarter of 1923. In Europe, Italy and France remained the chief markets for these shipments. The conditions of competition are illustrated in the following approximate figures, and more fully in the diagram (8).

<table>
<thead>
<tr>
<th>Year</th>
<th>Coal</th>
<th>Lignite</th>
<th>Coke</th>
</tr>
</thead>
<tbody>
<tr>
<td>1923</td>
<td>349</td>
<td>28.8</td>
<td>9</td>
</tr>
<tr>
<td>1924</td>
<td>345</td>
<td>28.5</td>
<td>8.5</td>
</tr>
</tbody>
</table>

Output in April was nearly 90 per cent. of the monthly average for 1913.

Reich Commission awarded a 15 per cent. increase in wages, coupled with an eight-hour day below ground. The miners demanded seven hours and were locked out. The result was a collapse of production in May and marked increase in the exports of British coal to Western Europe.

The extent of the recovery of German production is illustrated by the following figures of production within the present limits of Germany.

<table>
<thead>
<tr>
<th>Year</th>
<th>Coal</th>
<th>Lignite</th>
<th>Coke</th>
</tr>
</thead>
<tbody>
<tr>
<td>1913-14</td>
<td>35.0</td>
<td>3.0</td>
<td>1.0</td>
</tr>
<tr>
<td>1923-24</td>
<td>34.9</td>
<td>28.8</td>
<td>8.5</td>
</tr>
</tbody>
</table>

Though the figures are not strictly comparable, nor complete, they form a rough guide to the conditions of competition between the two countries.
In South America, particularly in Brazil, American coal shows a distinct tendency to increased consumption. In the first six months of the year, deliveries at Rio were larger from the United States than from the United Kingdom. Prices in June were about 35s. for British and 37s. 6d. for American coal. Here, again, it appears that a small change in export prices in either country might have an important bearing on the relative share in the competitive market. The prices, however, are made up of very different elements. Even with wages at union rates, American pit-mouth prices seem to be little more than half those of Great Britain on the average. The working-day is on an eight-hour basis, while the mines, particularly in the exporting districts, have certain permanent physical advantages which cheapen production. In consequence, and in spite of a rail journey measured by hundreds of miles, American coal is cheaper than British on the seaboard. The industry at the moment may be unprofitable, but that is true equally in Great Britain. A rise of prices in both countries to a profitable level would not affect greatly the conditions of competition. On the other hand, a fall in wages-cost is possible in America, but seems improbable in Great Britain on the present basis. A permanent export overseas of 10-15 mn. tons would be a very small fraction of the normal annual production of bituminous coal in the United States, but would profoundly affect British interests in markets such as South America and the Mediterranean.

The future of the Western European market for coal depends mainly on the problem of the industrial recovery of Germany. The recovery in mining seems to have outstripped that in industry. As regards coal, Western Continental Europe as a whole, working on an eight-hour basis, is approaching, where it has not already reached, the pre-war rate of output. On the other hand, Germany is suffering from general depression, while the one production of the “minette” districts of France and Lorraine is still below its pre-war level. The complaint, as in America, is “no market,” and the result short-time or discharge of labour. In spite of this, North Germany is still importing British coal in quantity, largely owing to the cheapness of sea-borne as compared with rail-borne freight, either from the Ruhr or from Silesia. How long the advantage will continue depends to some extent on railway policy and administration in Germany, and this in turn may be affected by the Dawes plan. It has been suggested that this plan is in some way detrimental to the British coal industry. Doubtless, if the conditions in the Ruhr during 1923 and the strangling of German production could have been perpetuated, British coal would have enjoyed a partial monopoly in European markets and the boom of 1923 would have continued for a time; but the revival of German mining started in December 1923, while the output of 1924 is merely a return to the level of 1922. The Ruhr question was solving itself independently of the Dawes plan for the future. As coal can only be used for industry and transport, its precise destination in the coal market of Western Europe is hardly material to the issue. The market is a single unit, though competitive conditions are modified in certain parts of it by difficulties of transport. If the market as a whole has a superabundance of coal, prices must be low.
The forcible shutting down of a particular source of supply, like the Ruhr, is a remedy as impracticable as it is drastic. The alternative is to increase the demand for coal, and hence the effect of the Dawes plan, in so far as it promotes the industrial recovery of Germany, must be favourable. Something more, however, is needed than a restoration of the conditions of 1913. Shortage and high prices have compelled economies in methods of production and transport. There has also been substitution of other materials for coal. Germany has exploited her native supplies of lignite; elsewhere water-power has been developed, and oil has displaced coal in part of the realm of sea-transport. The economic activities of 1913 could now be carried on with a smaller supply of coal. It is easier to increase the supply of coal than to raise the general level of industrial demand; at the same time nothing is more calculated to prevent economic recovery than a high price for coal. If coal is in too great supply for the moment, competition necessarily becomes keen and small variations in cost of production become important. The mine-owners of the Ruhr insist that in present circumstances the continuation of the eight-hour system is essential in order to keep down costs. They assert also that wages are too high in relation to output and should be modified, while the miners demand a further increase. The dispute is still in suspense (Nov. 29th), as the owners have rejected an award which favours the miners' claims. The experience of Germany has shown that the change from a seven- to an eight-hour basis involves an almost proportionate increase in output per man, if the industry as a whole is considered. Great Britain has given a fair trial to the change from eight to seven, and the figures demand a further increase. The problem is still in suspense (Nov. 29th), as the owners have rejected an award which favours the miners' claims. The experience of Germany has shown that the change from a seven- to an eight-hour basis involves an almost proportionate increase in output per man, if the industry as a whole is considered. Great Britain has given a fair trial to the change from eight to seven, and the figures demand a further increase.

The American mines, with their special advantages, may perhaps be able to make a further reduction in hours without affecting output, though this is a question which hardly concerns Europe. The problem of interest to Great Britain is whether America in the future will maintain her wages at such a high level as to discount her other advantages as an exporter of coal. In Europe, the future lies mainly between British and German coal; conditions are so similar in the two countries that it is difficult to imagine how the best of workers can produce as much on a seven- as on an eight-hour basis. Pit-mouth costs in the Ruhr in 1913 were higher than in Great Britain: if the German figures can be trusted, they are now considerably lower. The direct effect on the export trade is limited, as in America, by the high cost of transport by land, though the Ruhr has an outlet via Rotterdam to the sea. In all three countries, however, coal is an important constituent in the cost of steel, and here the pit-mouth cost tends to become more and the long-distance transport cost less significant. Real geographical conditions in Europe have not changed with political boundaries: the iron ore and the coal must come together again, and it will be of small concern to Europe or the world on which side of the political boundary they lie. Cheaper coal will result in cheaper steel, whether it is produced in the Ruhr district of Germany or in French Lorraine, and that steel and its products will be encountered in all the markets of the world.
Diagram 9.

Top line: U.K. monthly output of coal.
2nd " U.K. coal available for home use.
3rd " U.K. coal exported.
4th " U.K. mean weekly output.

1922 1923 1924

1
