

Overtime in Coal Mines in some European Countries

At the last Session of the International Labour Conference the question of overtime was one of the obstacles in the way of the adoption of the Draft Convention on hours of work in coal mines. The question has lost none of its prominence : it is therefore necessary to study it from every side and scrutinise all its details in view of the discussions that it will certainly cause at the next Session of the Conference.

The International Labour Office has accordingly analysed the information collected in the course of the 1925 and 1927 enquiries¹ on wages and hours of work in hard-coal mines with a view to throwing some light on this much-disputed question. From this information it has been possible to ascertain the facts and to construct a fairly accurate estimate of the importance of the overtime worked in hard-coal mines in some of the European countries most directly concerned, and in particular for Czechoslovakia, France, Germany, Great Britain and Poland.²

THE STATISTICAL DATA

For these five countries, the official statistics communicated to the International Labour Office contain the following data :

(1) Average number of workers employed in the mines : underground (hewers and other workers) and at the surface ;

(2) Total number of man-shifts worked by each of the above-mentioned categories of workers, i.e. normal shifts *plus* overtime and supplementary shifts (overtime converted into shifts of normal length, and shifts worked in addition to the normal shifts), and also short shifts if these were worked :

(3) Total number of man-days worked, i.e. the number of days of attendance at the mine, which is the same as the total number of man-shifts left after deducting overtime, supplementary shifts, and short shifts.

If the total number of shifts is greater than that of days worked,

¹ *Wages and Hours of Work in the Coal-Mining Industry*; Studies and Reports, Series D (Wages and Hours of Work), No. 18 ; Geneva 1928. *International Labour Review*, Vol. XX, Nos. 4 and 6, Oct. and Dec. 1929 : "Wages and Hours of Work in the Coal-Mining Industry in 1927". The more recent data provided for 1929 have not been used here, as they did not allow the overtime worked by hewers to be calculated.

² The other countries covered by these enquiries (Belgium, the Netherlands, the Saar) in their replies gave only the number of man-days (Belgium and the Netherlands) or man-shifts (the Saar) worked. Belgium and the Netherlands also stated that the number of man-days worked was practically the same as the number of man-shifts worked, and the Saar that the latter was very nearly the same as the former, which seems to denote that no supplementary shifts to speak of were worked in those countries.

this will denote that overtime has been worked in the form of supplementary shifts. The difference between the two totals will represent the number of shifts worked over and above the normal shifts. The number of supplementary shifts divided by the average number of workers who worked the shifts will give the average number of supplementary shifts, or the fraction of such shift, worked by each worker in each category during the year.

From the national point of view, the intrinsic value of the figures obtained seems to be beyond question, and the importance of the overtime worked can be estimated from these figures. But what would be most interesting would be to compare the figures obtained for the various countries in order to determine the relative importance of overtime in each of them. If the figures are to allow of such comparison, it is clearly necessary that the same method should be used in each case to arrive at the basic data : average number of workers, number of man-shifts worked, and number of man-days worked. In fact, however, this is not so : each country has its own method of compiling mining statistics, and there are differences of detail in the ways of compiling the data in question.

The methods of calculating the average number of workers are as follows :

Czechoslovakia : The number of workers is taken at each pay-day (every two weeks) and the sum of these numbers is divided by the number of pay-days (26 in a normal year). In principle, the result is not an average number of workers, but a number of full-time workers. In practice, the figure obtained by the Czechoslovak method represents the average number of workers if the mines have been working continuously throughout the whole year ; otherwise it represents the number of workers there would have been if each of them had worked regularly all the year.

France : The average number of workers, underground and surface, is obtained by dividing the total number of man-days worked underground and at the surface by the number of coal-winding days (*journées d'extraction*).

Germany : The average number of workers is obtained by dividing the number of normal man-days worked *plus* the number of days' work lost by the number of possible working days during a given period. This average does in fact represent the actual number of workers employed in the mines.

Great Britain : The mining statistics deal with workers under the following headings : (1) underground : men ; (2) surface : men and women ; (3) underground and surface : men and women. The total numbers of workers in accordance with this classification are recorded in the colliery books at quarterly intervals. The sum of the four quarterly sets of figures is divided by 4 to find the average number of persons employed in the mines during the year.

Poland : The official statistics take the number of workers on the colliery books at the end of each month, and calculate the arithmetic mean of these monthly figures for the whole year. From the data

relating to the number of man-shifts worked on ordinary working days, the average number of workers is calculated by dividing the number of normal shifts *plus* the number of shifts lost by the number of possible working days during a given period (the month or the year).

Furthermore, the definition of hewers varies in different countries and sometimes in different parts of the same country. The ratio of the number of hewers to the total number of underground workers also varies very widely as between different countries and basins, according to the geological and technical conditions of the mines. The following table shows the approximate proportion of hewers as a percentage of all underground workers in 1927 :

Country	Hewers per cent. of underground workers
Czechoslovakia	40
France	40
Germany :	
Ruhr	57
Upper Silesia	21
Saxony	45
Great Britain	47
Poland	24

It should however be pointed out that the extraction of coal is a continuous process in which the operations of hewing the coal and transporting it to the surface are intimately connected. The crucial point is not so much the number of hewers as the tonnage extracted, which has to be immediately conveyed to the surface. The extractive capacity of a mine, and the consequent number of hewers needed, depend strictly on the capacity of the means of transporting the coal to the surface. In normal periods the work of the mine is so organised as to balance the work of the hewers against that of the other workers. As long as the limit of extractive capacity is not reached, it is obvious that if the hewers increase their output by working overtime, the other workers must also work longer hours.

The methods of calculating the number of man-shifts worked are as follows :

Czechoslovakia : The number of shifts is the number of man-shifts actually worked, whether normal or supplementary.

France : The total number of days worked (man-days) is calculated by taking the sum of the numbers of workers on each day's attendance lists, without distinguishing between normal work and overtime.

Germany : The statistics give : (a) the number of man-days of normal length worked during a given period ; and (b) the total number of man-days worked, including overtime, expressed as working days of normal length.

Great Britain : The number of man-shifts is the total number of shifts worked on each day in each mine, including both shifts of normal length and also overtime shifts and Saturday shifts expressed as normal shifts. Separate figures are given for shifts worked by hewers (coal-getters), by other underground workers, and by surface workers.

Poland : The mining statistics divide the shifts worked into nor-

mal shifts (shifts of normal or legal length) and supplementary shifts expressed as shifts of normal length.

None of these methods provides any means of distinguishing between shifts worked for reasons of safety or technical reasons and shifts worked to satisfy economic requirements.

The data provided by the Governments are shown in tables I and II. They are given unmodified in any way and are subject to the precautions imposed by the remarks made above.

TABLE I. AVERAGE NUMBER OF WORKERS, BY CATEGORIES, IN 1927

Country and district	Underground		Underground and surface
	Hewers	Hewers and others	
Czechoslovakia	18,762	45,012	57,844
France	93,054	228,511	316,452
Germany :			
Ruhr	181,282	317,743	382,909
Upper Silesia	8,812	40,676	51,959
Saxony	7,901	17,352	23,517 ¹
Great Britain	372,300	778,100	960,800
Poland	19,535	77,273	114,748

¹ Including workers in ancillary establishments.

TABLE II. TOTAL NUMBER OF SHIFTS AND DAYS WORKED IN 1927
(In thousands)

Country and district	Man-shifts worked			Man-days worked		
	Underground		Underground and surface	Underground		Underground and surface
	Hewers ¹	Hewers and others		Hewers ¹	Hewers and others	
Czechoslovakia	4,687	11,239	14,938	4,599	10,994	14,420
France	25,042	61,236	85,658	24,923	60,913	84,978
Germany :						
Ruhr	48,104	85,149	104,223	47,105	83,174	101,217
Upper Silesia	2,378	11,253	14,519	2,281	10,644	13,689
Saxony	2,135	4,740	6,537 ²	2,026	4,472	6,147 ²
Great Britain	— ³	183,936	234,023	79,800	175,319	222,783
Poland	5,136	20,991	31,986	5,003	19,973	29,981

¹ These data were supplied by the Governments but were not reproduced in the report of the enquiry.

² Including days and shifts worked in ancillary establishments.

³ Great Britain has not stated the number of man-shifts worked by hewers.

The figures in table III, which have been calculated from the foregoing statistics, show the average number of supplementary shifts worked in 1927 by each worker for the same categories as shown in tables I and II. The average number of hours of overtime represented by these shifts could be calculated by multiplying the number of shifts by their length; but it would be necessary to take into account the differences between the various countries in the method of calculating the length of the shift.

TABLE III. AVERAGE NUMBER OF SUPPLEMENTARY SHIFTS WORKED PER WORKER IN 1927

Country and district	Underground		Underground and surface
	Hewers	Hewers and others	
Czechoslovakia	4.7	5.4	8.9
France	1.2	1.4	2.1
Germany :			
Ruhr	5.5	6.2	7.9
Upper Silesia	11.0	15.0	16.0
Saxony	13.7	15.4	— ¹
Great Britain	—	11.0	11.7
Poland	6.8	13.1	17.5

¹ For Saxony the number of surface workers includes workers in ancillary establishments; it has therefore not been possible to give a figure which would be comparable with those for the other districts of Germany and the other countries.

The following observations may be made on this table :

(1) In all countries overtime is worked by all the categories of mine workers specified.

(2) In each country, on the average less overtime is worked by hewers than by underground workers as a whole (the difference varying in the different countries and districts), and less by these than by all workers (underground and surface together).

This state of affairs has a plausible explanation in the following considerations :

(a) The work of the hewer, the initial productive work of coal getting, gives rise to a sort of current of coal whose rate of discharge is retarded by a variety of reasons, with the result that the working hours of the workers whose occupation is closely connected with the movement of this current (extraction in the strict sense and conveyance of the coal to the pithead) are prolonged.

(b) Overtime worked by hewers is in general intended to meet economic requirements by increasing production. The other underground workers have to do not only the extra work needed to clear the additional coal cut by the hewers, but also, and to a greater extent

than the hewers, other supplementary work for reasons of safety or technical reasons.

For Great Britain figures for hewers are not available ; but in view of the number of supplementary shifts worked by surface workers and underground workers respectively it seems that hewers must work about eight or ten supplementary shifts each per year.

(3) The number of supplementary shifts per worker varies from country to country and in Germany from one district to another.

(4) There are certainly, in most countries, supplementary shifts worked for economic reasons. In fact, the work of hewers is essentially coal-producing work ; and if they work longer hours it is less for reasons of safety than to increase the production of coal. Further, if it is accepted that the number of supplementary shifts worked for reasons of safety or for technical reasons is much about the same in all countries, the differences between the countries must presumably be due to shifts worked for economic reasons. It may, however, be noted that in Great Britain the proportion of supplementary shifts worked for economic reasons is perceptibly higher than it is in other countries, for the statistics of shifts worked take into account Saturday afternoon shifts, which are all concerned with technical requirements (work that must be carried on continuously, such as that of engine men, stokers, pump men, pony men, etc.). In Germany, the shifts worked include those worked on Sundays and holidays, which seem to be equally remote from the direct production of coal.

OVERTIME AND THE PROVISIONS OF THE LAW

The question now to be examined is whether this state of affairs is consistent with the national regulations on hours of work, and in particular how far the regulations allow overtime to meet economic requirements.

It may be recalled that the legal regulations are sometimes contained in special legislation for mines and sometimes in general legislation on hours of work. In some countries there are also collective agreements whose terms form part of the general legal framework.

Countries with Special Mines Legislation

In *France*, the Act of 1919 authorises overtime only with a view to rendering assistance in case of accident or to avert an existing or threatened danger, or for reasons of *force majeure*.

It is only in case of war or "external tension" that hours of work may be prolonged in order to increase production. The Circular of 16 February 1920 states that the term "external tension" applies to the very short period of peace that generally precedes the declaration of an already imminent conflict. In no case may advantage be taken of this exception in normal peace-time conditions.

In *Great Britain* the Coal Mines Act of 1908 allows exceptions for the purpose of rendering assistance in the event of accident, or

for meeting any danger or apprehended danger, or for dealing with any emergency or work uncompleted through unforeseen circumstances which requires to be dealt with to avoid serious interference with ordinary work, and in certain mines to ensure safety at a particular stage of the work.

To meet economic requirements, the 1908 Act authorised overtime up to 60 hours per year at the rate of one hour per day. The 1926 Act allowed the extension of the working day by one hour, not on 60 days, but throughout the year, for a period of five years. The 1930 Act reduced the extension allowed by the 1926 Act to 30 minutes per day. The effect of the 1926 and 1930 Acts, however, was not to authorise overtime in the strict sense of the word, but to increase the normal length of the working day. But the extension certainly tends to meet economic requirements.

The 1908 Act also provides that in the event of war or of imminent national danger or great emergency, or in the event of any grave economic disturbance due to the demand for coal exceeding the supply available at the time, the operation of the Act may be suspended by Order in Council to such extent and for such period as may be named in the Order, either as respects all coal mines or any class of coal mines.

Countries without Special Mines Legislation

In *Czechoslovakia*, *Germany* and *Poland*, hours of work in mines are regulated by the general legislation, and mining establishments can avail themselves of the exceptions allowed by the law in the same way as other industrial establishments.

In *Czechoslovakia*, hours of work may be increased by not more than two hours per day during not more than four weeks, when extra work is necessary in case of an interruption of the undertaking resulting from *force majeure* or accidents, or in the public interest, or for other important reasons. The necessary permits are issued by the mining authorities of first instance. Further overtime, not exceeding two hours per day during not more than sixteen weeks in the year, may be authorised by the mining authorities of second instance. The total amount of overtime may not be more than twenty weeks or 240 hours in the year. This limitation does not however apply to emergency work, especially repairs, where danger to life, health, and the public interest is involved.

In *Germany*, the Order of 1927 allows an extension of working hours by 60 hours per year, i.e. not more than two hours per day on 30 days in the year, selected at the discretion of the employer after hearing the views of the statutory representatives of the workers of the undertaking. Daily working hours may also be extended to ten hours by collective agreement. Lastly, an extension of hours of work up to ten a day may be authorised when this extension is desirable for technical reasons, in particular in the event of interruptions of work due to natural events, accidents, or other unavoidable disturbances, or for general economic reasons.

The German mines have thus legally at their disposal a large amount of overtime which can be used to meet economic requirements. In practice, a distinction must be drawn between "additional work" (*Mehrarbeit*), resulting from special agreements or arbitration awards, and overtime in the strict sense. Collective agreements fix the regulation length of the shift, to which is added the "additional work", the whole making up the normal hours of work. Overtime in the strict sense is time worked in excess of these normal hours. It is therefore quite distinct from the "additional work".

The collective agreements in force in the different German basins leave the parties to make their own arrangements as to overtime. They do not limit the amount of overtime, except in Saxony, where no worker may work more than two supplementary shifts per month.

In *Poland* the law allows the extension of daily hours of work to twelve in the event of actual or imminent disaster or accident. This limit may be exceeded in the case of rescue work. In the case of special requirements, duly substantiated, the hours of work may be extended by not more than 120 hours in the year or 4 hours in any day. In case of national necessity, the hours of work may be extended during a period of not more than three months. The last two of these exceptions can evidently be utilised to increase production.

Thus in these three countries mining establishments benefit by more liberal regulations than those imposed in the other countries by special legislation, and it is legally possible for them to work a larger amount of overtime, in particular to meet needs of an economic nature.

An examination of the legislation of the other coal-producing countries would give similar results : (1) possibility of working overtime for various reasons : accident, technical necessities, public interest, sometimes economic necessities; (2) greater strictness of special mines legislation than of general legislation, especially in regard to exceptions for economic reasons.

Conditions of Labour in the Java Tobacco Industry¹

In 1925, when the Volksraad of the Dutch East Indies was discussing the Draft Order concerning the employment of children and the employment of women at night², which, among other pro-

¹ JAVA. KANTOOR VAN ARBEID : *Verslag betreffende eene door den Inspecteur bij het Kantoor van Arbeid P. de Kat Angelino op de Vorstenlandsche Tabaksondernemingen gehouden Enquête*. Publicatie No. 5. Weltevreden, Landsdrukkerij, 1929. 178 pp. 2.50 florins.

² This Order was promulgated in the *Staatsblad* (1925, No. 647) and came into operation on 1 March 1926. Cf. INTERNATIONAL LABOUR OFFICE : *Legislative Series*, 1925, D. E. I. 2.