



An International Conference on Wage Statistics

An international conference on wage statistics convened by the American Social Science Research Council was held recently in Geneva and was attended by representatives from the United States of America, Great Britain, France, Germany, Italy, and from the International Labour Office. As this was the first unofficial international conference of its kind, its results are of special interest in comparison with those of the International Conferences of Government Labour Statisticians held in 1923 and 1925¹, and as a starting point, it is hoped, for further development of national wage statistics and possibly for future conferences of a similar nature. The following article, therefore, gives an account of the origin of the Conference, and its results.

ORIGIN AND OBJECT OF THE CONFERENCE

IN 1927, the Social Science Research Council (United States), a body formed in 1923 for encouraging research in the social sciences and to serve as a "general staff" studying the larger possibilities of scientific methods applied to the understanding of man and his institutions, and consisting of representatives of seven national organisations, conceived the idea of making an international study of wage data. Its Advisory Committee on Industrial Relations, presided over by Mr. Dennison, President of the Dennison Manufacturing Company, and nationally known for his successful social experimentation, was impressed by the impossibility of making trustworthy comparisons of wage rates, earnings, real wages, and labour costs in different countries. It therefore contemplated that an American Committee appointed by the Social Science Research Council, in consultation with recognised international institutions, should take the initiative in calling an International

¹ For accounts of these Conferences, cf. *International Labour Review*, Vol. IX, No. 1, Jan. 1924, pp. 3-30, and Vol. XII, No. 1, July 1925, pp. 1-22; also *Studies and Reports, Series N (Statistics)*, Nos. 4 and 8.

Conference on Wage Data. It was considered advisable to limit the Conference to the chief industrial countries, i.e., in addition to the United States and Canada, to Great Britain, France, Germany, and Italy, as it was believed that responsible influences in these countries could be brought to support the work in this field of international organisations such as the International Labour Office. The scheme proposed was that representative national committees should be formed in each of the countries, which should prepare a thorough and critical analysis of what the wages and hours statistics available in their own countries really mean, the extent and limitation of their services, and how they can properly be used in international comparisons. When the committees had prepared their reports, a conference would be held in order to afford an opportunity for a critical exchange of this information, and for suggestions as to what measures of improvement should be taken, and how they should be undertaken. National committees were accordingly set up, in the summer of 1928, in Great Britain (under the chairmanship of Professor Clay of the University of Manchester) and in France (under the chairmanship of Professor Picard of the University of Paris), in addition to the Committee representing the United States and Canada, already mentioned, under the chairmanship of Mr. Dennison. In the case of Germany and Italy no national committees were set up, but Dr. Wagemann, President of the Statistical Office, assisted by some officials of his department, undertook the work of preparation of the report on German wages, while Professor Gini, President of the Central Statistical Institute, prepared a report on Italian statistics.

The International Labour Office, in view of its competence in the matter of wage comparisons, was naturally interested from the first in this initiative. Not only had it published a number of reports on wages in different countries, and undertaken at regular intervals a comparison of real wages in a large number of capital cities, but it had been frequently consulted by Governments, and by employers' and workers' associations, as to the level and movement of wages in all countries of the world, and had become recognised as a central authority, an "international clearing house", on the subject of wages and standards of living. It had, moreover, made special efforts to improve and render more comparable the wage statistics of various countries by convoking conferences of Government Labour Statisticians. The first of these, held in 1923, had laid down, necessarily in somewhat general terms, the methods of compiling statistics of wages and hours in the different countries,

and at a second conference, held in 1925, the methods of making international comparisons of wages between different countries were discussed. Any further attempt to improve national wage statistics could not but be welcomed by the International Labour Office. As an official organisation it is necessarily obliged to work primarily through the Governments of the Member States, and hence the Conferences of 1923 and 1925 were confined to duly accredited Government delegates who would be responsible for the carrying into effect of any of the resolutions adopted by the Conference. The 1929 Conference, however, was entirely unofficial, and the International Labour Office was invited to take part in the same way as the different national representatives, who, in so far as they were public officials, did not attend in their official capacity. It was hoped in this way to get the collaboration and impartial views not merely of the "producers" of statistics, but also of "consumers", such as economists, business men, workers' representatives, private statisticians, and research workers, who would be able to state what, in their opinion, were the scope and lacunae of their national statistics, how they could be improved, and how the best use could be made of them.

The intention of the promoters was to hold the Conference in Europe in the autumn of 1928, but in view of the fact that the various committees did not complete their reports till the end of that year, the Conference was postponed till 1929 and opened in Geneva on 12 January, when some twenty delegates, representing the United States, Great Britain, Germany, France, and Italy, together with representatives of the Statistical Section of the International Labour Office, assembled.

THE WORK OF THE CONFERENCE

In view of the informal character of the Conference, no minutes of the proceedings were taken, and it is only possible to give a short outline of the discussions which led to the adoption of resolutions.

The Conference was presided over by Mr. Henry Dennison, Chairman of the Committee on Industrial Relations of the Social Science Research Council, who, in welcoming the delegates, outlined the objects of the Conference and invited the chairman or chief representative of each delegation to summarise the report he had submitted on the wage statistics of his own country. A representa-

tive of the International Labour Office followed with an account of the work of the Office and of the difficulties it had experienced in making international wage comparisons. The opening meeting showed at once the great diversity, not only in the national wage statistics, but also in the way the national reports had been drawn up. This was only to be expected, in view of the fact that no plan for the drawing up of the reports on uniform lines had been made, and it rendered their comparison somewhat difficult. The discussion, however, brought out two of the most important uses of wage statistics, on which it was decided to concentrate future discussion, namely, the methods of measuring changes in wages over a period of time in a given country, and the international comparison of wages at the same period between different countries; and Committees were accordingly set up to deal with each of these subjects. A General Committee, consisting of the President of the Conference, the principal delegate from each of the four European countries, and a representative of the International Labour Office, which was at the same time an editorial committee, a selection committee, and an organisation committee, was also set up. As the Conference only met again once for a short time for the purpose of adopting the reports of the three Committees, the further account of the work of the Conference is limited to that of the Committees.

Work of the Committee on Wage Index Numbers

This Committee met under the chairmanship of Professor Gini, President of the Central Institute of Statistics, Rome, and, as stated above, confined itself to laying down general principles for the guidance of the experts in the different countries in the preparation of index numbers of wages. It distinguished six different purposes for which such index numbers may be compiled, and prepared an elaborate and comprehensive series of resolutions on the methods to be adopted. It prefaced these resolutions with a general preamble which explained the spirit in which it approached its task and the general considerations by which it was moved in adopting its resolutions, and no better account of the work of the Committee can be given than to repeat this document, which runs as follows.

The Committee is fully aware that in the majority of countries the available data are too limited for all the requisite conditions for the compilation of satisfactory index numbers of wages to be fulfilled.

However, it considered it desirable in the circumstances to discuss the conditions to be observed in order that index numbers of wages should, as far as possible, be adapted to the purposes for which they may be used. It seemed to the Committee that such an examination was useful not merely from the point of view of statistical theory, but also from the practical point of view, because many countries are at present passing through a period in which wage statistics are being reorganised on fresh bases, and it may be very useful for these countries to have certain guiding principles for the collection and tabulation of their figures. Moreover, even if it appears that the programme outlined is incapable of realisation at the moment, it will, nevertheless, have a certain practical utility because it will make clear the extent of the reservations to be made when interpreting necessarily incomplete series of wage index numbers, whether existing, or to be drawn up in the future.

The Committee unanimously recognised that the compilation of index numbers of wages must proceed along perceptibly different lines as regards both the data to be taken into account, and the methods of collection and tabulation, according to the purpose for which the index numbers are to be used.

It would consequently serve no useful purpose to attempt to establish an index number for wages for all purposes; on the contrary, it is necessary to consider separately the establishment of different indexes corresponding to different purposes.

There are three obvious and very distinct purposes for which index numbers of wages may be required:

- (1) to determine one of the elements for measuring fluctuations in the standard of living;
- (2) to calculate the remuneration per hour of work;
- (3) to calculate the labour cost per unit of production.

Within each of these purposes, the object may be to determine the fluctuations in wages in time, or to make comparisons between different districts or different countries. In accordance with the task entrusted to it, the Committee, generally speaking, considered chiefly the first of these points of view, that is to say, the variations in wages in time within a country.

At the same time, international comparisons of the remuneration per hour of work seemed so much more valuable than comparisons in time in a single country, that the Committee felt impelled to examine certain specially difficult points raised by this question.

For each of the purposes mentioned above, a distinction must be made according to whether the index is considered as applying to the working class as a whole, or as an indication of the variations occurring in different industries or classes of workers, independently of the influence which the relative importance of these different industries or classes of workers may have on the general wage averages. For example, if index numbers of wages are considered as one of the factors to be taken into account in estimating the standard of living of the workers, then the aim may be to measure separately the variations in the standard of living of skilled, semi-skilled, or unskilled workers; or the variations occurring among the workers as a whole, which may arise to a considerable extent from the fact that skilled workers may be at present much more numerous than formerly. The Committee therefore considered it desirable to keep in mind these two points of view. A similar distinction may be made, and was in fact taken into account by the Committee, in considering the labour cost per unit of production.

In the same way a calculation of the remuneration per hour of labour

may be concerned with the remuneration for any hour, or for an hour of the same nature (normal or supplementary work, skilled, semi-skilled, or unskilled work) and of the same efficiency in regard to either individual qualifications or technical equipment. The Committee, in view of the limited time at its disposal, restricted its examination to the latter point of view.

In addition to the three main purposes analysed above, there are two others for which index numbers of wages have been employed. There is, first, that of measuring the variations in the total amount of wages as a percentage of the national income, and secondly, that of using them as one of the factors in economic forecasting. The Committee was of opinion that this latter purpose was particularly important, and therefore gave it special attention.

It must be understood that when the Committee states that index numbers of wages may be used for measuring the standard of living or the remuneration for an hour of work, or again as a factor in economic forecasting, it does not thereby imply that they represent the only factor to be taken into account for the purpose in view. It is obvious that the index numbers of wages can only be one factor, and that other measurements must also be taken into consideration. In particular, the index number of the cost of living must be considered when estimating the standard of living or the real remuneration for an hour of work, and similarly, the level of prices when the index numbers of wages are to be used in calculating the labour cost per unit of production. In the same order of ideas the Committee unanimously decided (as the second Conference of Labour Statisticians had done) that the data concerning actual earnings should be taken for preference, save in exceptional cases, in examining the question of the standard of living.

The Committee was unanimously of the opinion that in determining the standard of living no attempt should be made to allow for the subjective cost of labour, which it is quite impossible to measure; on the contrary, the term "standard of living" should retain the connotation which it generally has in economic science, namely, that of material well-being. In order to avoid any misunderstanding the Committee would even have adopted the suggestion of using the term "purchasing power" instead of "standard of living", if it had not been that it considered it more practical to retain the commoner expression which is more familiar to the majority of workers, rather than employ a technical term whose exact significance is probably fully grasped only by specialists.

The Committee did not claim to deal with all the important points, but was content to consider for each type of index:

- (1) the wages data (rate of wages, average wages, or actual earnings) to be taken into account in each case;
- (2) the industries or classes of workers to which these data should refer;
- (3) the areas from which returns should be collected;
- (4) the period during which the data should be gathered;
- (5) the method of arriving at the index numbers, that is, the weighting of the various classes or industries, the choice of the basic period, etc.

Generally speaking, the Committee wishes to emphasise the importance, whenever a series of index numbers of wages is published, of giving a detailed explanation of the principles adopted with reference to each of the five points enumerated above, and of all the other factors which may be essential for a true interpretation of the index numbers.

Finally, while the Committee, in accordance with the task entrusted to it, considered in particular the fluctuations of wages within single

countries, it also frequently emphasised the fact that comparisons between different districts and different countries were no less important, and might even be of greater value.

The text of the resolutions is given below in Appendix I. These resolutions are definitely "ideal" resolutions, i.e. they show the best methods to be adopted, granted that all the necessary data are available, and it is doubtful if many countries will be able to apply them at present. It may safely be said, however, that no such detailed series of resolutions on statistical methods for compiling wage index numbers has ever existed before; and the Committee and the Conference as a whole are indebted to the chairman, Professor Gini, to whose authority and competence this satisfactory result is due.

Work of the Committee on International Wage Comparisons

This Committee met under the chairmanship of Mr. Dubreuil (France) and entered upon the task in a somewhat different spirit from that of the former Committee. It conceived its primary task to be that of seeing how far the data for making international wage comparisons could be improved, and as the only regular comparisons of such a nature are those made by the International Labour Office, it naturally took these figures as a basis for its discussion. The scope of the figures used by the Office and the method employed have been frequently published, and are indicated farther on in this *Review*. They are based primarily on rates of wages and on retail prices of food — the latter being used for the calculation of "real" wages. The Committee, however, confined itself entirely to the money wage aspect, and did not touch on the question of real wages, i.e. the purchasing power of wages.

Before adopting any resolutions on the subject, however, the Committee considered certain general questions arising out of the nature of wage data. It insisted on the distinction between "rates" of payment for a certain unit of time, and "earnings" or the amount actually received by a worker at the end of the pay period. This distinction, though elementary, is fundamental, and yet is often neglected in current wage statistics. The Committee realised the advantages and drawbacks of each of these types of data, but considered that greater comparability might be achieved if each country developed the kind of data in which its present statistics are weakest, and in order to show to what extent the existing statistics are comparable, it suggested that the International

Labour Office might publish an annual statement showing, for each of the principal industries, the type of data at present available in the chief countries. This statement would show at a glance the differences in the scope of the data for different countries, and, by inference, the countries for which neither form is available. This, it was thought, would encourage the various countries to supplement their statistics, and in course of time the annual statement would gradually improve until more adequate comparisons would be possible.

The limitations in the wage statistics at present collected by the International Labour Office for the purpose of international comparisons have long been recognised, and the Committee believed it possible to improve the value of the statistics by adding to the number of occupations and to the number of localities covered, and urged the Office to ask the national authorities to supply the additional information for this purpose. It selected certain further occupations whose inclusion did not appear unsuitable, and considered that it might also be possible to include railway workers and commercial and municipal employees.

The text of the resolutions adopted by this Committee is given below in Appendix II. Unlike those of the first Committee, they exclude all questions of methodology and deal solely with certain practical aspects of the collection and comparison of wage data. The problem of "real" wage comparisons was not dealt with by the Committee, but nevertheless its resolutions will prove a useful encouragement to the work of the International Labour Office in this sphere.

Work of the General Committee

The primary task of this Committee was to consider the various reports on national wage statistics which had been submitted with a view to their co-ordination. It was realised that though these reports contained information of great value for all persons interested in statistics of wages, their value would be considerably improved if they were drawn up on a uniform plan and were accompanied by a series of tables showing for each industry or occupation the information available concerning (a) rates of wages, (b) labour cost. Each of these tables would show in detail the origin and source of the wage data, their scope (i.e. areas covered and frequency of collection, and classes of workers covered), their nature (whether hourly, daily, etc., whether average or actual rates, etc.), and the hours of labour. A complete scheme of synoptic tables was drawn

up for this purpose. It was decided that these tables should be submitted to the authors of the national reports for completion, and that each report should be based on the scheme laid down in these tables. The headings of the tables, adopted by the Conference, are not reproduced here.

It was generally felt that the work of the Conference had been sufficiently useful to justify a permanent record, and the Chairman, at the unanimous request of the General Committee, promised to ask the Executive Committee of the American Social Science Research Council to sponsor the publication of a report of the proceedings. This volume would consist of a short account of the origin and purpose of the Conference, the various reports submitted to it, the texts of the resolutions adopted, and, in an appendix, the synoptic tables showing, for each of the countries represented, the character of the wage data available. Professor Clay (British National Committee) and the Chief of the Statistical Section of the International Labour Office were authorised to carry on negotiations as Joint Editors with the different countries as regards the re-drafting of the reports and the preparation of the volume for the press. The text of the resolutions as printed below is therefore provisional and subject to revision. It was decided at the same time that the members of this Committee should keep in touch with each other and should consider in due course the advisability and practicability of holding another Conference.

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It is of course too early to say what the results of the Conference will be. Its immediate result was the bringing together of a number of persons, all interested, though from different points of view, in improving wage statistics, not only in the direction of quantity, but in that of quality. The mutual discussion of the difficulties experienced in the various countries, and the willingness shown by all the representatives to endeavour to improve their national statistics of wages and hours of labour, are a good augury for the future. The scientific work of the International Labour Office in collecting and comparing wage data for international purposes has received a new stimulus, and the fact that the national committees are still keeping in touch with each other through the General Committee is proof that the good work undertaken through the initiative and generosity of the American Social Science Research Council will not be allowed to lapse.

APPENDIX I

**Resolutions on the Construction of General Index Numbers
of Wage Changes***(Provisional Text)***I. CONSTRUCTION OF INDEXES TO MEASURE CHANGES IN THE
STANDARD OF LIVING OF THE WORKING CLASS AS A WHOLE***(1) Choice of Type of Wage Data.*

If the standard of living is used in its generally accepted sense of material well-being, it is evident that for the purpose of constructing wage index numbers to measure changes in the standard of living of the working class as a whole, the ideal type of data to be used should be actual annual earnings, or earnings for a shorter period representative of annual earnings.

Experience in certain countries shows that in fact changes in actual earnings may differ from changes in rates of wages and in average wages per hour. But this does not exclude the fact that in other countries changes in rates of wages may be considered as approximately representative of changes in actual earnings in certain industries and under certain conditions.

While recognising that, in normal conditions, the standard of living may be considered proportional to actual earnings, it must be recognised that if the hours worked are such as to lead to fatigue and other adverse effects, this circumstance would affect the standard of living, and the accuracy of an index number based on actual earnings. In these cases, it would be desirable to take hours of labour into consideration.

(2) Industries and Categories of Workers to be included.

For the construction of such index numbers it would be desirable to consider changes in the wages of the wage-earning class as a whole, but as in practice this would be rarely possible, it is necessary to select certain industries and categories of workers which would be representative of the wage-earning class. In this case it will be necessary to indicate clearly the industries and categories of workers covered by the statistics.

If it is desired to measure the standard of living of the wage-earning class as a whole, it is indispensable to include agricultural workers, as well as workers in industry proper. But as in most countries statistics of the cost of living of agricultural workers are not available, it will be necessary, when one wishes to compare index numbers of wages with index numbers of the cost of living, to consider separately the workers in industry proper.

(3) Choice of Districts.

Where it would not be possible to cover the whole country, districts should be chosen so as to be representative of the whole country. If

adequate consideration is not given to this very important point, there is the danger that wage index numbers will be compiled which are not representative of the actual situation, either from the point of view of the levels of wages of the wage-earning class, or from the point of view of their changes.

(4) *Frequency of Compilation.*

From the point of view of the practical use of these statistics, it would appear reasonable that the frequency of compilation should be determined in relation to the stability of economic conditions, compilation being less frequent when these conditions are more stable.

From the point of view of facility in collecting the statistics and for the purpose of ensuring their accuracy, there may be certain reasons, as is shown by the experience of a number of countries, for the compilation of the statistics at frequent intervals, even when economic conditions are stable.

In any case, it is opportune to determine frequency of compilation in relation to the systems of wage payment in use in the different countries, selecting periods for which the wage payments may be considered complete. Generally a period of one month (or four weeks) would appear to be the most suitable, and to be satisfactory in relation to other general uses of the wage index numbers. Where the supply of information depends on the good will of the employers, it is necessary to take care that the statistics for successive periods relate to the same establishments. If this condition cannot be realised, it would become necessary to obtain also statistics for the preceding period in order to enable the figures for successive periods to be connected by the chain system.

When the system of payment includes remuneration covering several periods, it is necessary to distribute the remuneration among each of the periods to which it applies, or possibly over succeeding periods until a new payment is made.

(5) *Method of Compilation.*

As to the method used in establishing these index numbers, the most precise consists in relating the total actual earnings compiled or calculated for a given period to the corresponding actual earnings for the period taken as basis. These averages may be compiled per worker, or better, per member of the family, if it is possible to include the earnings of other members of the family.¹ The last consideration, which may be important in international comparisons, does not, however, have any appreciable effect on time comparisons in a country.

The calculation of a simple or a weighted average index number for the various industries and occupations, the weights remaining constant during the various periods, may lead in certain circumstances to false conclusions, for they do not take into account the movement of workers

¹ These averages will usually be compiled per earner, but when it is possible to obtain the information they may also be compiled per family. In this case the average size of the family should be given, expressed, if possible, in terms of "adult men".

from one industry to another and from one occupation to another. These movements may in certain cases be of great importance. In consequence, if it is necessary to use partial indexes for the different industries, it is necessary to revise the weighting as often as possible so as to take account of these changes. For such a series of index numbers, the choice of base period does not influence the index numbers.

It would be desirable, however, that all countries should adopt a common base period and for various reasons a post-war period is favoured. This does not exclude, naturally, the possibility for certain countries of constructing a series with pre-war bases. The fact that in various countries statistics of wages are in their infancy or in course of being organised, and also the fact that in various countries economic conditions are not yet stable enough, hinders the fixing at present of the most appropriate base period common to all countries. In a general way it would be preferable not to choose the first period for which the enquiries are made, as in general the first enquiries are not the most exact.

II. CONSTRUCTION OF INDEX NUMBERS OF WAGES FOR MEASURING, IN EACH COUNTRY, THE CHANGES IN THE FLUCTUATION IN THE STANDARD OF LIVING IN DIFFERENT INDUSTRIES OR OCCUPATIONS

It might be interesting for certain purposes to measure fluctuations in the standard of living, not of the workers as a whole, but in different industries or occupations, without taking into account fluctuations in the standard of living of the workers as a whole, which may arise from variations in the numerical importance of different industries or occupations. In this case, the same methods are to be recommended as to the choice of wage data, of localities, and of periods. For the construction of these index numbers it will be necessary to compile special index numbers for each of the industries and categories included and to take a weighted mean, using a constant weighting for each period covered.

III. CALCULATION OF INDEX NUMBERS OF WAGES AS AN AID IN FORECASTING ECONOMIC CONDITIONS

(1) *Choice of Data.*

In countries which do not possess well-organised statistics of unemployment, overtime, and short time, or in countries where the wage rates are fixed for a determined and fairly lengthy period, the statistics of earnings are preferable for following economic fluctuations. In countries for which the statistics of unemployment, etc. are well organised, and where rates of wages can be changed according to economic conditions, it may be useful to consider also rates of wages as an index for economic forecasting, as, at the beginning of a crisis, these rates may vary according to the orders received by establishments, and consequently may constitute a more sensitive index than that of actual earnings.

(2) *Industries and Categories of Workers.*

In every country it is necessary to take into consideration the industries and categories of workers whose variations in wage rates or actual

earnings are the most sensitive ; the work of choosing the industries and categories the most appropriate for these studies must be left to the specialists of each country. Certain industries even of less economic importance, like the luxury trades and printing, may give interesting information in this field, whilst industries which receive orders long periods in advance, and may in certain cases be the most important ones from the economic point of view, may be less adequate for forecasting.

In each branch of industry the best organised establishments which can estimate with the greatest certitude the future development of the market should primarily be considered.

(3) *Choice of Localities.*

In order to establish economic forecasts, it is advisable to take into special consideration certain centres or localities which, either because of the concentration of industry, or because of some special development, or for other reasons, are, as experience has shown, the first to show symptoms of crisis or of economic revival.

(4) *Periodicity.*

The interval chosen should be as short as possible.

(5) *Method of Compilation.*

It would be advisable, even if it were desired to reduce the various information into one index, to publish separately the information for the various industries, occupations, and localities, so that all necessary information would be available for the interpretation of these indexes.

IV. COMPILATION OF INDEX NUMBERS OF WAGES WHICH MAY BE USED TO MEASURE THE EARNINGS FOR AN HOUR OF WORK, COMPARABLE IN NATURE AND EFFICIENCY

(1) *Choice of Data.*

It is understood that the best method theoretically would be to determine separately the average wages per hour of normal work and the average wages per hour of overtime, and to combine these two averages by means of a constant weight.

As it is not generally possible to establish this distinction in practice, the most practical method for avoiding this difficulty would be in many countries to calculate a single average of wages paid for normal and overtime work, including special allowances, payments in kind, etc., which would be arrived at by dividing the aggregate amount of actual earnings by the total number of working hours. Against this method of calculation the objection may be raised that changes in the payment for an hour of work may result merely from a change in the proportion between the normal hours of work and hours of overtime accomplished. This objection is the more important, the more important are the changes in this proportion.

(2) *Industries and Categories of Workers.*

The comparison may cover certain categories of workers belonging to certain occupations who in different countries, or in different periods, work with approximately similar equipment and under similar conditions. However, it must not be overlooked that the individual workers who perform the same occupations in different countries and in various periods may differ in varying degrees from the average worker in respect to individual skill and efficiency. This objection would be the more important in practice, the more restricted the number of occupations and the number of workers considered.

Even if the comparisons between different countries may on this account be uncertain, it is possible that the variations in time shown by these index numbers may be comparable among themselves.

(3) *Localities.*

It is understood that the localities should be representative of the conditions of the whole country. Consequently it may not be sufficient to limit the statistics to capital or principal cities, because the differences, in this respect, between these and the rest of the country may be more or less great according to the country or the period considered.

(4) *Periodicity.*

If it were possible to determine separately the average wages per normal hour and per hour of overtime, it would be desirable to secure data for as brief periods as possible. Since in general such data are not available, it will be necessary to choose rather long periods so that the different circumstances influencing the amount of overtime work might compensate each other.

(5) *Method of Calculation.*

It goes without saying that the different occupations chosen for international comparisons will comprise different numbers of workers in different countries, and that these differences will not be similar in all countries and will even present considerable variations from country to country.

Since the index numbers are to be used to measure the changes in the earnings per hour of work of a given nature and given efficiency, it will be necessary to calculate as many special index numbers as there are from this point of view different categories, and then to compute an average of these index numbers.

It is evident that the index numbers calculated for different categories of workers should be weighted according to the number of workers in each category. A practical difficulty in comparing the index numbers of different countries arises from the fact that the numbers of workers of each category would vary from country to country, and that there is no reason for taking as basis the number of workers in one country rather than that in another country. In order to avoid this difficulty, it might be advisable to repeat the calculation as many times as there are countries, using in turn the weight corresponding to the conditions prevailing in each country.

The results of the calculation will show whether the application of the different methods of weighting will produce significant deviations.

V. COMPILATION OF INDEX NUMBERS OF WAGES FOR THE PURPOSE OF MEASURING THE LABOUR COST PER UNIT OF PRODUCTION

If the unit of production is taken in the sense of a unit of value, the determination of labour cost per unit of production consists in calculating the percentage of the total value of production represented by the aggregate wages paid to the working class. It is evident that even if in some countries and in certain branches of productive activity establishments already furnish data of this kind, it is not possible to expect at present an extension of these enquiries over all branches of economic activity and all countries. In this respect the Commission, while hoping that this will be possible in respect to an increasing part of production and increasing number of countries, considers that the collection of data on wages, cost of labour, and cost of production should be organised as far as possible so as not to give rise to fears or opposition on the part of the establishments. Even if this opposition to supplying this detailed information about different business establishments is sometimes due rather to habits or traditional ideas which are no longer justifiable, it is necessary in any case to take account of them because the sincere collaboration of the proprietors of establishments constitutes an exceedingly useful element in ensuring the accuracy of the data.

In any case the possibility may be considered of measuring the variations, between different periods or different localities, in the labour cost as an element in the total cost of production. There are, in fact, several countries which establish censuses of the value of production for the whole country or for industry as a whole, or for industrial production, or for manufacturing, or for large industries, or even for agricultural production. For these countries it would be possible to establish index numbers showing the variations in the value of the production as between different periods. If it should be possible to establish, in addition to this series of index numbers, another series of index numbers relating to aggregate wages paid to the workers covered, it would be possible to state whether the value of production has increased more or less rapidly than the aggregate wages bill, and consequently whether the percentage of wages in the total cost of production has increased or decreased during this period.

Similarly, it is possible to proceed to comparisons between different countries, provided that the data concerning the production of these countries are comparable between themselves; it is, however, difficult to satisfy this condition.

It is evident that this method may be applied either to production as a whole or to certain special branches of production, or further to a particular industry. It is obvious that care should be taken in interpreting the variations in the percentages showing changes between different periods as well as between different countries, because these variations or differences may be due to extremely different circumstances, such as differences in machinery and equipment, in natural conditions, in the efficiency of labour, etc.

In compiling these index numbers, it is convenient to proceed as follows:

- (1) To take as bases the actual earnings — that is to say, the aggregate and not the average earnings.

- (2) and (3) If it is not possible to take into account all localities and industries concerned, to choose representative localities and industries.

(4) To obtain records of wages for the same periods as for the censuses or evaluations of production, which can only be effected at rather long intervals.

(5) To adopt for the index numbers of wages the same base as for the index numbers of production, and to follow in respect of weighting the principles specified under I and II, according as it is proposed to make, or not to make, allowance for the effects of differences in the importance of the production of different industries.

VI. COMPILATION OF INDEX NUMBERS OF WAGES WHICH MAY BE USED FOR MEASURING THE VARIATIONS IN THE PROPORTION OF THE NATIONAL INCOME FORMED BY WAGES

The percentage of the value of production represented by the aggregate wages of labour may have a very different meaning according as it applies to primary production (extractive industries, forestry or agriculture) in which the consumption of the products of other industries is of small importance, or to manufacturing industries in which an important part of the value of the product is due to raw materials or semi-manufactured products. This inconvenience might be avoided if the total wages are related not to the total value of production but to the value of the net product of industry.

The relation between the aggregate earnings of labour as a whole and the national income is of particular interest from theoretical and practical points of view.

As regards the choice of data concerning wages, industries, localities, the frequency of collection, and the methods of calculating the index numbers, the principles indicated under V may in general be applied.

However, it is to be observed that the comparisons between different countries may be in practice more frequent and less difficult in this case. In fact, many countries in which comparable data concerning the value of production are not available calculate approximately the amount of national income.

Per contra, the comparisons as between different periods would probably be less frequent in the present case because the variations in the income can be evaluated with sufficient accuracy only at fairly long intervals.

Recommendation

The Conference, in approving the report of the Committee [on Wage Index Numbers], commends its recommendations to the attention of the authorities responsible for the compilation of wage statistics in the different countries and the International Labour Office, and undertakes, by the mutual exchange of information and otherwise, to assist in bringing wage statistics into accord with the principles therein laid down.

APPENDIX II

Resolutions on International Wage Statistics

(Provisional Text)

I

(1) The Committee is impressed by the fact that a great variety of wage statistics is collected in the various countries. In general these statistics may be described as statistics of earnings or of wage rates. Some countries are strong in statistics of rates, others of earnings. It is desirable that records of the movement both of rates of wages and of earnings should be available. The Committee therefore recommends that :

(a) the countries which are weak in statistics of earnings take steps to add to those statistics by collecting statistics of earnings, for the principal occupations as well as for the chief industries, and of total hours worked from which it would be possible to compute earnings per hour, and that

(b) the countries which have concentrated on statistics of earnings improve their figures of wage rates and of changes in wage rates.

(2) It is evidently of the greatest importance that the expressions "earnings" and "rates of wages" should have the same meaning in the statistics of the different countries. With this object the Committee recommends that :

(a) the statistics of the different countries indicate clearly what is understood by the expressions "rates of wages" and "earnings", and particularly what are the payments in money and in kind which are included in "earnings";

(b) at intervals, special enquiries should be undertaken to show what are the differences between the rates of wages and average wages (earnings) of different branches of industry and categories of workers.

(3) The Committee is of the opinion that attention might be particularly directed to defects in the information at present available in the various countries if the International Labour Office would compile an annual statement, if possible in tabular form, by industries, either of wage rates or earnings or both. The statement should, if possible, also include for the various industries in each country the full-time and actual hours together with their distribution.

It is considered that the publication of such information would encourage the various countries to supplement their statistics as to rates or earnings or both, and that in course of time the annual statement would gradually improve until it would provide material for more adequate comparisons.

II

The Committee is impressed by the limitations of the present quarterly statistics of wages published by the International Labour Office, due to the fact that few industries and occupations in, generally, only one city in each country are included.

The Committee believes that it would be possible to improve the statistics by adding to the number of occupations and of cities. It therefore recommends that the Conference invite the International Labour Office to consider whether these defects could possibly be remedied by asking the national authorities concerned to supply them with additional information necessary for this purpose.

The Committee has selected a few additional occupations which appear not unsuitable for immediate inclusion. These are named in the annex to these Recommendations. The Committee also considers that the number might be further increased.

The Committee also ventures to suggest that the International Labour Office might be asked to consider the possibility of consulting with competent bodies in the several countries as to whether other localities could be added to the present list, and the further question whether it might be possible to indicate more definitely the divisions of industry to which some of the occupations included belong and to omit any localities which are not really representative of any country as a whole.

The occupations proposed for addition are confined to non-localised industries. It might be possible also to include occupations from other non-localised industries, such as railway transportation, and also commercial and municipal employees. Localised industries such as iron and steel, textiles, mining, and shipbuilding can only be dealt with by consultation with the representatives of the several countries, and certain occupations which come under this head and the towns in which they are found might also be added to the list.

If fuller information on the lines indicated is obtainable, the collection and publication of statistics for localised and non-localised industries on a half-yearly or yearly basis might be adequate.

ANNEX

Building Industry :

Structural iron workers.
Concrete workers.

Electric Power Distribution :

Electrical engineers.

Electrical Installation (Buildings) :

Electrical fitters.

Transport :

Tram and bus drivers.
Tram and bus conductors.
Motor drivers (van and lorry).
Horse drivers.