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BASIC LABOUR STATISTICS

The Elements of a Minimum Programme

(Submitted by the International Labour Office)

## BASIC LABOUR STATISTICS

The Elements of a Minimum Programme

The purpose of this paper is to identify and describe the elements of a practical programme of basic labour statistics. The argument is directed primarily to governments, and especially to the governments of countries in the early stages of economic development.

It is probably safe to say that some information included in or related to the subject of labour statistics exists for every nation or territory of the world. Even in the advanced countries, however, the data are not fully satisfactory in all respects and most of the developing countries are severely handicapped by lack of basic statistics on the size and characteristics of the working population, and on employment, incomes, wage rates, hours worked and other aspects of working conditions.

In the following sections the immediate and long-run requirements for labour statistics are presented from the standpoint of a new nation, which is in the initial stages of organising its governmental services, but which is also committed to an economic development programme of considerable scope.

It is not possible to write a general prescription which will satisfy the requirements in every situation. The immediate needs for data in each country are affected by its governmental and industrial structure, its laws and social attitudes, and the status of its development programme or plans.

There is less variation from country to country in the characteristics of the basic long-run or continuing labour statistics series. The urgency attached to various types of data may differ again depending upon the rate of growth of the economy and the particular legal and social structure, but ultimately each country should have a statistical system which will produce valid, current measures of changes in its population and labour force and significant indicators of trends in factors affecting the working population.

### The Labour Force

The size and composition of the labour force is obviously one of the first factors to be considered in planning an industrial development programme.

A recent census of population would appear to provide the most satisfactory source of the global manpower data needed in defining the employment aspects of the development programme. The census will also, as a rule, provide data on the distribution of the labour force by major areas of activity: by industry or as between agricultural and non-agricultural sectors. Recent census data are rarely available, however, and moreover there are important limitations on the amount of detail that can be obtained by the system of full enumeration involved in the complete census.

Aside from the problem of making a complete enumeration in areas where communication is difficult and where there has been little experience in census techniques, a census does not yield reliable information on the occupations and skill levels of the labour force. In fact, estimates of the effective or potential labour force derived from census data may be subject to a wide margin of error, partly because the census enumerators are unable to probe sufficiently into economic and family status and the interest of the respondents in obtaining jobs. Moreover, it is often found that a gain in economic activity is accompanied by an increase in the number counted as unemployed because persons who were formerly not listed in the labour force are induced by the improved prospects for employment to become active job seekers. This change in status is more clearly identified through the repeated sample survey than through the census method.

It should also be noted that a population census is an unsatisfactory source of information on unemployment. In view of extensive urban unemployment, which constitutes a serious and urgent social problem in a number of African countries, it may be desirable to undertake a sample household survey, limited to the urban areas, to obtain immediate information on the nature and extent of the unemployment problem in the cities.

Unfortunately, it is often the complete lack of essential skills, rather than the lack of information on skill levels, that impedes the

implementation of a programme for industrialisation in a less-developed area. It has been noted that in these countries there is likely to be little occupational and skill differentiation among the members of the working population.<sup>1/</sup> Within the limited time and resources available at the initiation of the programme, it may be more practical, therefore, to seek data on the age and educational levels of the population, as a first approach to the determination of the potential of the labour force for receiving training in the skills which will be needed.

If no recent census data are available, the first rough dimensions of the development plan may depend largely upon guesswork. In some instances data for adjacent countries may provide a useful basis for such estimates. Thus, for example, information on population density, ratio of urban to rural population, labour-force participation rates, etc., for a contiguous area may be applied, with modifications based on the best judgement of experts, in deriving rough-and-ready measures. It must be recognised, however, that the objectives and the requirements of the plan will probably be subject to radical revisions when more exact data become available on the labour resources of the country.

Steps should, therefore, be taken to develop as early as possible the framework of a statistical reporting system which will provide reliable data, first on the structure of the labour force, and ultimately on trends in employment, unemployment, wages, etc.

Most of the basic labour statistics are obtained from one or more of three principal sources; establishments or business firms, households, and administrative records.

Countries in an early stage of industrialization often do not have administrative records which will yield useful data on employment, earnings or hours of work. Where reasonably comprehensive social security systems exist, however, careful attention should be given to their utilization as

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<sup>1/</sup> See Labour Force Analysis and Projections Needed for Planning, Milos Macura, a paper presented at the E.C.A. Seminar on Population Problems in Africa, Cairo, October - November 1962.

a source of employment and earnings data, and of "benchmarks" for employment indexes. Some forms of administrative records, such as tax rolls, may provide lists of establishments which can be used as sampling frames. In most instances the largest employers can be readily identified and, if no other source exists, a block-sampling technique may be needed for obtaining a representative coverage of the smaller establishments.

The employer sample should provide ready access to payroll data, including number of persons employed, total hours worked and total wages paid, related to specified pay-periods, such as days, weeks or months. The weekly pay-period is most common. It is the practice in some countries to request employment and payroll data for "the pay period ending nearest the 15th of each month" or some other easily specified interval.

From these data statistical series can be developed which will show the rate of change in employment, changes in average hours worked, and changes in hourly, weekly or monthly earnings. <sup>1/</sup>

If information on the size and industrial classification of establishments is lacking, it may be desirable to cover a large sample in the first survey in order to produce detailed data on employment by industry, size of establishment and region. Thereafter, for the purpose of obtaining a periodic index of employment, the sample of establishments may be reduced.

Information will also be needed regarding the occupational and skill distribution of the labour force, as well as wages and supplementary benefits classified according to level of skill, occupation and industry. While employer records may contain some designation of each employee's job assignment or occupation, experience has shown that the job content and titles vary so widely that useful information in this detail cannot be obtained by standard reporting questionnaires or by simple transcription from pay-roll records. It is usually necessary to assign skilled field interviewers who visit the establishments, observe the operation, describe the

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Examples of these data may be found in the I.L.O. Year Book of Labour Statistics, tables 6-9 and 2-18.

occupations in standard or uniform terms and record the relevant data on hours worked, earnings, social security payments, etc. Surveys of this type are expensive and time-consuming, however, and can usually be undertaken only at relatively infrequent intervals.

The statistical sources - establishment reports and household surveys - developed to meet immediate requirements also provide the basis for a long-range programme on manpower statistics. Reports on the number of employees, hours worked and wage payments should be obtained at regular intervals from a representative sample of establishments. The size and characteristics of this sample will, of course, depend upon the situation in the particular country. It is generally desirable to have some measure of the trends in employment in different regions and among the different industries. For countries in an early stage of industrial development, however, it may not be practical to attempt to classify beyond broad categories such as manufacturing, mining, construction, transportation and trade.

The employment index should be computed at least once a year, but preferably more often. On the other hand, an attempt to compile a monthly index may impose too great a burden on the statistical agency and the respondents. A major limitation of the annual index is that it provides no information on the magnitude of the seasonal changes in employment. For this reason, a quarterly series is to be preferred. The household survey programme - in particular that phase of the programme so often referred to as the continuous labour force survey - may also provide information on seasonal variations in employment.

### Unemployment

The existence of unemployment in the countries embarking on development programmes is usually so obvious that global unemployment figures have little immediate value. It is important, however, to know the basic characteristics of the unemployed including age, sex, family status and previous work experience. These are among the factors which must be considered in drawing plans for the effective utilization of the labour force in the expanding economy.

It is evident that information of this type normally cannot be obtained from employers' records. For this reason it is necessary to seek the information elsewhere, and the household survey has proved to be the most effective device for the purpose. Considerable time - upwards of a year or more - is usually required to plan and carry out a labour force survey and to analyse the results. It is, therefore, desirable that attention be given to this matter as soon as possible in order that basic data on the characteristics of the current and potential labour force be available to guide the formulation of the employment policies in connection with the development programme.

#### Wages rates and Incomes

Economic development in most of the newly developing countries usually involves not only the improvement of output in the traditional sectors, primarily agricultural, but the exploitation of hitherto undeveloped resources and expansion of manufacturing industries. Widespread and sometimes violent changes in the distribution of population, patterns of living and incomes, often accompany increases in national income. Despite the success of the development programme in the aggregate, there may be at the same time an increase in unrest and discontent on the part of the population. "The basic problem is that the fruits of economic development are not spread evenly throughout the population."<sup>1/</sup> The difficulty arises in part from the fact that the wage rate structure does not adjust promptly to the changed economic situation.

This unrest gives rise to demands for wage increases, often resulting in work stoppages, inefficiency and political turmoil. To develop policies and plans for dealing with this problem, governments and the public must have information on wage rates, conditions of employment and incomes. It is important that the basis for consistent statistical series on wages and earnings be established at an early stage in the development programme to show how the benefits of increased production are distributed, to expose areas

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<sup>1/</sup> From paper by Dr. W. Arthur Lewis, in Restless Nations: A Study of World Tensions and Development; Council on World Tensions; New York, Dodd, Mead and Company, 1962.

in which wage policies and administration may not be meeting the plan requirements, and to reveal the results of different methods of compensation, such, for example, as fixed hourly rates versus incentive wage plans.

In the more advanced industrial societies the employers' payroll records are usually quite complete and accurate, showing the number of hours worked by each employee and the details of his wages, including supplementary benefits and pay deductions for jointly financed welfare programmes, etc. In the countries in the early stages of industrial development, however, the employer's records are likely to be incomplete in many respects. It is therefore necessary under these conditions to seek the required information through personal interviews with the employers, and perhaps to provide guides and assistance in setting up appropriate records which will yield systematic and uniform future reports on employment and payrolls.

#### Cost of Living Indexes.

This term is widely but incorrectly used in reference to statistical series designed to measure changes in prices paid by consumers. Consumer Price Index has been generally adopted by the statisticians as the title most accurately describing the function of the price measure, which indicates the change from time to time in the average price at retail of a fixed list of goods and services making up the index "market basket".

The need for consumer price indexes is suggested by the fact that this is the most widely published statistical measure contained in the I.L.O. Year Book of Labour Statistics; 115 countries were represented in the consumer price index section of the 1961 issue, (second in importance was social security statistics, with 70 countries represented). No less than 30 of these countries are in the African continent.

The importance of accurate price indexes becomes evident as countries emerge from the traditional, largely agricultural economic pattern and become increasingly industrialized. In the industrialized economy, with its dependence on monetary transactions, incomes derived from money wages and increasingly complex fiscal problems, price indexes serve as the deflators and the standards by which the rate of economic progress in real terms is measured.



From the standpoint of the government the price index provides a warning signal against dangerous inflation. For both the government and the employed population, the consumer price index, especially when designed to show trends in prices paid by wage earner families, serves as a basis for measuring the real value of wages. If prices rise faster than wages, the workers are losing ground. If real per capita national output increases but wages rise no faster than prices, the workers are not obtaining a fair share of the benefits of economic progress.

#### Family Expenditure Surveys

The first essential for a consumer price index is the establishment of the set of goods and services for which prices are obtained from retail stores, markets and service establishments. These prices should be combined by a weighting design which will reflect the relative proportion of each type of commodity or service in the total expenditures of the average family. The weighting pattern is usually determined by means of a survey of family expenditures.

A well designed household sample will provide the framework for the survey of family expenditures. In most instances the expenditures survey will give other information of value, such as age, sex, marital status and economic activities of members of the household, and basic housing characteristics. Care must be taken, however, to avoid attempting too much. There is a great temptation, when planning the survey, to include a wide variety of inquiries; in effect combining several surveys in a single interview. While this procedure may appear to produce a greater variety of data at a lower cost, experience has shown that the quality of the data may decline to such an extent that invalid results are obtained. This is a problem which must receive especially careful attention in the less-developed countries, where there is a lack of skilled interviewers and an absence of household records from which the families may obtain ready replies to the inquiries.

In addition to their function as a basis for the consumer price index, the family income and expenditures data may also provide valuable analytical tools for use in planning. One of the interesting and potentially highly useful products of the family expenditure surveys is the analysis of

income elasticities, i.e. the effects of changing income levels on the pattern of consumption. It must be noted, however, that the art of income elasticity analysis has not yet been developed to the stage which would support complete reliance on the results in planning the allocation of resources. This arises in part, at least, from the limitations in the available data, even in the countries with the most comprehensive survey programmes.

Nevertheless, analysis of the income and expenditure data may provide useful clues as to probable future trends in consumer demand. Thus, a comparison of the patterns of expenditures at different income levels will indicate changes in the distribution of family expenditures, such as relative increases in outlays for housing, clothing and luxuries, as incomes rise. If the planning objective is a certain average increase in personal incomes, these changes in expenditure patterns can be taken into account in estimating future demand.

#### Other Labour Statistics

The series described above - labour force, employment, unemployment, wages and incomes, and consumer price indexes - constitute the primary framework of a national labour statistics programme. There are, however, other types of labour data which, although not of immediate urgency, will become increasingly important as the industrialization programme advances. The future requirements for such data should be anticipated far enough in advance to provide assurance that the information will be available when the need for it arises.

One of these is statistics of employment injuries, comprising data on the number, type and severity of, and compensation received for, injuries caused by accidents connected with employment. One of the unfortunate consequences of rapid mechanization in a country whose workers are unaccustomed to the use of machinery is a high rate of industrial accidents.<sup>1/</sup>

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<sup>1/</sup> See "Occupational Safety in a Newly Developing Industrial Area", Ewan Clague, paper B/56, United Nations Conference on the Application of Science and Technology for the Benefit of the Less-Developed Areas, Geneva, 1963.

Early initiation of a programme to collect statistics of industrial accidents will provide the evidence to demonstrate the need for safety measures, assess the effectiveness of accident prevention programmes and furnish essential data needed for planning and administering workmen's compensation schemes.

The most common sources of statistics on industrial injuries are one or more of the following agencies: <sup>1/</sup>

- (a) national statistical offices;
- (b) agencies entrusted with the control of compensation for industrial injuries;
- (c) insurance and social security agencies;
- (d) labour inspectorates;
- (e) accident prevention agencies.

The appropriate source in any particular developing country will depend upon which of these facilities may be most readily available for the purpose. In any event, however, it may be desirable to give special attention to certain industries, such as mining and construction, in which the rate of accidents is known to be high;

Under conditions which foster the organization and growth of trade unions, there will also arise a need on the part of the government and the public for information on the number, industrial distribution and membership of the trade unions. As industrialization advances, labour-management disputes will inevitably arise, and the government may find it necessary to establish mediation and conciliation machinery to facilitate the peaceful settlement of such issues. Governmental and public support of the conciliation activities, and labour and management acceptance of governmental measures to reduce the effects of disputes, is enhanced if statistics are available to show the impact of industrial disputes.

Because of the scattered and irregular incidence of work stoppages arising from labour-management disputes, it is difficult to establish an efficient and statistically sound method of measuring their effects. Reports on current

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<sup>1/</sup>For details see I.L.O. "Statistics of Industrial Injuries", a report prepared for the Tenth International Conference of Labour Statisticians, Geneva, 1962.

or pending difficulties may be obtained from conciliation officers, labour inspectors, the daily newspapers, etc. These reports may be followed up by sending inquiry forms to the parties involved, requesting specific information on the issues, the beginning and ending dates of the work stoppage, the number of workers affected, and the terms of the settlement.

Mention should also be made of some other types of data which fall within the broad category of labour statistics. These include labour turnover, i.e. the number of workers hired and the number discharged or who have quit their jobs; labour productivity; migration statistics; and various types of data, such as social security statistics, which emerge from the administration of governmental functions. Generally speaking, these data do not require immediate attention in the early stages of industrial development, and can be produced at a later period, when greater resources and a more complex economy warrant their use, both in terms of cost and of need.

#### International Standards

In developing the labour statistics programme attention should be given to relevant international standards. Suggested standards for most of the statistical data described in this paper have been promulgated through a series of resolutions adopted by the International Conferences of Labour Statisticians, which have been convened by I.L.O. at intervals since 1923. Standards recommended by the first through the ninth conferences will be found in the I.L.O. publication "The International Standardisation of Labour Statistics", N.S. 53, Geneva, 1959. Additional resolutions were adopted by the Tenth International Conference of Labour Statisticians, held in October 1962, and are contained in the report of the Conference.

The standards which define the terms and suggest the scope and frequency and methods of obtaining data are based on the practical experience of government labour statisticians throughout the world. They represent a consensus of these experienced public officials as to the priorities which should be attached to the various types of data, the practical requirements, and the most effective presentation of the data to meet existing needs.

From the standpoint of the countries who are initiating labour statistics programmes, adherence to international standards has many advantages. Not only do the standards provide a practical guide for laying out the new programme, but the data ultimately obtained will be comparable with those of other countries which conform to the standards. Comparison of the data for countries in various stages of development can provide useful clues as to the trends which may emerge as the development programme progresses.