

of investigating the methods of ascertaining and of measuring variations in the value of the monetary standard, recommended in the course of various reports which deal exhaustively with the subject of index numbers, that "governments should ..... direct existing Departments of State, to collect a sufficient number of prices officially, to publish their prices officially, to deduce one or more index numbers from them, and to publish the variations in these index numbers annually or at more frequent periods." The Department of Labour is really adopting the recommendation of these economists, since it is the intention to carry the number forward from month to month in future in the Labour Gazette.

The purposes of an index number are essentially practical. In the case of the Canadian number, the purposes which it is expected to serve, past and future, are to afford a means of measuring tendencies in the cost of living and an interpretation of the current trade situation as reflected in prices. For the former purpose, retail prices are, in theory, preferable. The Department of Labour's investigation has, however, been confined to wholesale prices because of their greater availability and accuracy and because over long periods they show fairly enough the general trend of living expenses, and they are to be preferred for the second object of the Canadian index number—that of affording a barometer of industrial and commercial change. Moreover, the cost of living aspect of current price variations is more fully covered in the Labour Gazette in a series of monthly returns of retail prices received from 46 leading centres of population throughout Canada. Upwards of thirty staple varieties of foods are quoted in these returns, and a statement with regard to rentals is also given.

The construction of an index number of this kind involves three main problems:—

- (1) The selection of the commodities to be included in the number.
- (2) The obtaining of the quotations.
- (3) The reducing of the statistics to a form which will show the relative significance of variations and which will permit of the combining of the quotations to show general movements.

The choice of commodities in the present case has been made on the general principle of having the index number as representative as possible of the more important phases of Canadian production and consumption. The double viewpoint of production and consumption secures the inclusion of the main articles of import and export. Notwithstanding the many difficulties involved in including manufactured articles (chief among which is the absence of permanent standards—an especially formidable difficulty in Canada) their inclusion on a conservative basis in an enquiry like the present has seemed imperative. In the case of a large number of commodities, the manufacturing process represents practically their entire cost to the community. In the present number the effect of tendencies incidental to the manufacturing process is present in about 40 p.c. of the quotations.

As regards the number of commodities, practice in the case of the established index numbers has varied widely. The Economist's number represents 22 commodities, Jevons', 39; Sauerbeck's, 45; Falk-

ner's, 223; the United States Department of Labour's, 261 and Dun's, 350. The endeavour in the case of the Canadian number has been to obtain a fairly diversified list stopping at a point where the selection begins to involve repetition or overlapping on any considerable scale. The number of articles cited in the present enquiry is 230, though in a few instances the quotations represent the average of a large number of distinct lines.

With regard to the collection of prices, the practice followed throughout the Department of Labour investigation was to collect and collate the best available published information, the result being submitted for verification to long established firms at the wholesale centre in question. Declared values of important articles of import or export have been employed for verification purposes in the case of a few important raw materials imported by manufacturers direct from the primary world market, and in which there is no wholesale trade in Canada.

The series of quotations for a selected list of commodities having been obtained, the problem is reached of reducing them to a common basis of comparison and of combining them so as to show a generalized result. The first step to be taken is the selection of the base period, and in this respect it has been decided that for the Canadian index number 1890-1899 shall be the base period. That period has been chosen for these reasons:—

(1) The years 1890-1899 were a period first of falling and then of rising prices; and though between 1890 and 1896 prices were probably lower than at any time in the closing quarter of the century, the recovery from 1897 to 1900 was very rapid rendering the period as available on the whole, as any, as reflecting normal conditions, within the limits of choice.

(2) A similar investigation by the United States Department of Commerce and Labour, begun in 1902 and carried on from year to year since, employs the closing decade of the nineteenth century as its base period, and as the commodities covered in the two investigations are in a large number of cases the same, comparisons between the two countries are rendered much easier by the employment of the same base period. The contiguous position of the two countries, and the similarity of economic and trade conditions in both, render the study of comparative prices as between the two exceptionally inviting and worthy of being facilitated wherever possible.

The Canadian index number is being calculated on the simple arithmetical average method of giving each commodity equal importance. The list of articles, it is considered, is sufficiently extended and well distributed to overcome the need for weighting (a statistical method by which each commodity is given in the number an importance equal to the importance of the commodity in the consumption or trade of the country) based on the limited number of commodities included in the number, nor has there occurred in Canada in the past twenty years any such violent interruption of normal economic conditions as to render weighting necessary otherwise. It is stated in the Department of Labour's report, from which the facts of this article have been drawn, that it is the intention to include in the index number in the future certain articles, concerning which com-