

Number of Price Series Included.—The new total index number for all commodities shows very much the same movement as the old series. It was however, mainly for the purpose of improvements in groups and sub-groups that the number of price series included in the index was increased from 236 to 502. This large increase in the number of items included made it possible to make many groups much more comprehensive and representative. Building and construction materials, for example, are now represented by a wider range of commodities as well as by a more geographically complete series of prices. The number of price series in this group was increased from 32 to 90. Similar improvements have been made in a great many other groups and sub-groups. Chemicals and Allied Products now includes 73 price series as compared with 13 in the old index. Non-metallic Minerals and Their Products is represented by 73 price series in the new index and 16 in the old. These changes in the number of price series have added greatly to the usefulness of the index numbers as regards groups and sub-groups, which furnish subsidiary index numbers for special purposes.

Formula.—Actual calculations of the index number were made according to the same formula as before. This formula, which produces the aggregative index, is now used for the purpose of calculating many of the most important index numbers and for a comparison of three or more periods on a fixed base has the support of many eminent index number makers. It is expressed as follows: $\frac{\sum P_1 Q_0}{P_0 Q_0}$

Weighting.—Weighting, of course, must conform to the formula used, but many variations are possible within the system. Quantity exchange is the basis of the Bureau's weight, that is to say, production and import figures are used to arrive at a weight, but as regards production, only quantities actually marketed are considered. In arriving at the weight for any commodity, duplication is avoided by making deductions, where possible, when the commodity is included again in another form, for example in the case of wheat and flour. An improvement in weighting has been made by working out a threefold system, *viz.*, weights for individual commodities, sub-groups, and finally, groups of commodities. In the first place the commodities in each sub-group are weighted in such a manner as to arrive at the most accurate index for that sub-group. Such weights, however, will not do for a main group which may include another sub-group containing the same commodity in a different form. For this reason, the sub-group index numbers are again weighted by sub-group weights (values worked into percentages). Another reason for the sub-group weights is the fact that in each sub-group only representative commodities are included. In order to give each sub-group sufficient weight in arriving at a group index it must be weighted by a figure which represents as far as possible the total value of all commodities which might be included in the sub-group. Finally, group index numbers are weighted in arriving at the index number for all commodities, so as to ensure that no group index will wield a disproportionate influence upon the final result. The group weight is the estimated total importance in exchange of all commodities which can be classified in that particular group. An example will make this clear:—