

## CHAPTER I

### METHODS OF COMPILING INDEX NUMBERS OF THE COST OF LIVING

**T**HE application of index numbers to the problem of measuring changes in the cost of living is beset with many perplexities, which arise in part from the principle itself and in part from its particular application.

#### INDEX NUMBERS IN GENERAL

The use of the index number is becoming more general. In its application to a single phenomenon, e. g., the production of pig iron, it simply transforms a series of absolute quantities into one of relative quantities. Each member of the absolute series is expressed, usually as a percentage, in relation to some chosen base, which may be the initial figure of the absolute series, its average, the terminal figure, or some other member or grouping of members. While index numbers may be and are applied to a single series of numerical facts in order to place in clearer light the mutual relations of the numbers of the series, they may be and more frequently are applied to a group of several series of facts. It is the group index number that reveals the distinctive characteristics of this method of fact analysis.

A group index number aims to express in a single series the composite changes which occur from time to time in a more or less closely connected group of phenomena, which are assumed to be governed more or less by the same tendencies. It is not essential mathematically that the phenomena be connected, nor that they be, in fact or in theory, subject to like tendencies, but mathematical possibility is one thing, actual usefulness another. A composite picture of unrelated facts has little significance.

The original field in which index numbers were employed,