

2, 3, 4. The utility values of A and B are set at 1 and 2 elementary units per ordinary unit, respectively. By applying the price index formula of equation F_3 , there follows:

$$P_{12}(E_0) = \frac{9/8}{5/5} \neq 1, \quad P_{23}(E_0) = \frac{13/11}{9/8} \neq 1, \quad \text{and} \quad P_{13}(E_0) = \frac{13/11}{5/5} \neq 1.$$

The three INF evidently fail the identity property, but nonetheless the transitivity property proves to hold, namely: $P_{12} \times P_{23} = P_{13}$.

Recall in addition that transitivity and the requirement for consistency in additivity are considered in contemporary national accounting practice as some conditions *sine qua non*. Note also that the use of equation F_3 as an alternative of F_2 has specific limitations of its own. The condition of stable quantity-structure of the market is replaced here by the condition of stable utility-structure of the market, i. e. by stable proportions of the commodities' marginal utility values over time.

Which of the conditions on the market is more limiting to practical work is difficult to decide, having in mind the applicability in national accounting. Here, calculation of absolute values is a rather more preferred approach than of indices. Thus, the presence of u -stability is usually assumed without much hesitation. Arguments for justifying that assumption can be found in Stone (1956, p. 24)².

6. DERIVING SPECIAL FORMS OF FUNDAMENTALS F_2 AND F_3 IN ELINT

Hitherto we have discussed F_2 and F_3 in their most general form, with parameters a , b , θ , and T varying independently from each other in the formulae. However, in the practical statistical work, special forms are usually considered and applied. It is the aim of the present section to indicate the way the Elementary Index Number Theory derives special forms of F_2 and F_3 , and to oppose this way in the next section to the manner, the Common Index Number Theory handles the task, exercising hereby a rather negative impact on the national accounting issue of today. Generally, the following cases deserve attention:

² Note also that indices which are traditionally constructed as C_a -form indices, such as the consumer price index, the producer price index and the standard of living index, can easily be constructed in the E_a -form provided that the above-mentioned assumptions are present. However, no one appears to have tried that yet, especially when the base year does not coincide with the unit calibrating year a .