

On the Decomposition of the Bonferroni Index by Income Sources and Population Subgroups

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This paper proposes a simple algorithm to compute the Bonferroni index which is quite similar to the way Silber (1989) had defined the Gini index. The Gini index was then defined as the product of three elements: a row vector representing the individual population shares, a linear mathematical operator called G-matrix and a column vector representing the individual income shares, the individuals being ranked by decreasing incomes. In the present paper the Bonferroni index is also defined as the product of three elements: a row vector representing the individual population shares, a linear mathematical operator called the Bonferroni matrix and a column vector representing the individual income shares, the individuals being ranked this time by increasing incomes. Such an algorithm turns out to be very useful to decompose the Bonferroni index of inequality by income sources, income classes or population subgroups. Moreover such an approach may be extended to derive Bonferroni related indices of income mobility or segregation. An empirical illustration based on the EU-SILC data demonstrates the usefulness of this new algorithm.