DISAGGREGATING INPUT-OUTPUT MODELS WITH INCOMPLETE INFORMATION

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Disaggregating a sector within the Leontief input-output (IO) framework is not a straightforward task since there is more than one possibility for the unknown technical coefficients of the disaggregated IO table, and access to more information than embodied in the aggregated IO table is thus required. This paper presents a methodology for disaggregating sectors into an arbitrary number of new sectors when the only available information about the newly formed sectors is their output weights. A random walk algorithm is used to explore the convex polytope containing the admissible combinations for the unknown technical coefficients of the disaggregated IO table. The developed methodology is illustrated by disaggregating the electricity production sector of China's 2007 IO table, and by looking at the CO_2 emission intensity factors of all the sectors of the economy.