

## Does bias really matter in input-output analysis? An almost definite answer

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Pioneering works on stochastic input-output analysis usually assumed stochastics on the technical coefficients and proved that under certain circumstances the Leontief inverse is biased (e.g. Simonovits, 1975). More recently, stochastics was alternatively imposed on the intermediate transactions of an input-output table rather than on its technical coefficients (e.g. Dietzenbacher, 2006). The findings of the latter experiments turned out that the bias tends to be rather small and needs a large sample size to get significant relevance. This paper however shifts the attention to supply and use tables, which really constitute the basic units of the elements of an input-output table and therefore, of the technical coefficients. By means of the same kind of experiment as in Dietzenbacher (2006), we prove that the bias might be small indeed but its consequences over the output multipliers (column sums of the Leontief inverse) might not be so tiny but to the contrary, rather large. The Leontief inverse estimations of the output multipliers are confronted with the unbiased and consistent econometric estimations of the output multipliers as in ten Raa and Rueda-Cantucho (2007). A similar application on carbon dioxide emission multipliers is also tested in order to quantify the estimated bias of a different kind of multiplier. The results suggest that the use of supply-use tables and stochastics in the determination of multiplier impact estimates should be increasingly applied in all kind of forthcoming scientific studies that currently (ab)use of the Leontief inverse. We would say therefore that bias does matter in input-output analysis and this paper provides an almost definite solution to circumvent this so far everlasting problem.