

A Bayesian Approach to Conflicting Input-Output Data

Topic: Methodological aspects of input-output analysis 2

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In this paper we apply a Bayesian approach to the reconciliation of conflicting data in Input-Output (IO) tables. In a Bayesian context IO transactions are treated as nonnegative random variables of truncated Gaussian distribution with known best guess and uncertainty. From the Maximum Entropy Principle we derive an analytical expression that obtains a consistent set of posteriors from a set of conflicting priors. We report a numerical approximation of the general solution and compare this Bayesian algorithm to conventional techniques (least squares and biproportional update methods) using an empirical example.