The use of supply-use tables for the identification of key sectors using unbiased input-output multipliers

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From an axiomatic point of view, Kop Jansen and ten Raa (1990) and Rueda-Cantuche and ten Raa (2009) singled out the product technology and the fixed industry sales structure assumptions as the best two models for the construction of either product or industry input-output tables, respectively. However, there is one hard to neglect criticism that has prevented them for a more widespread use in input-output analysis, i.e. the resulting negative coefficients. At this point, this paper proves that under these two assumptions, unbiased and consistent backward and forward input-output multipliers can be respectively estimated econometrically from supply and use tables instead of from input-output tables. The advantages of our econometric approach are twofold, i.e.: not only it circumvents the problem of negatives but also provides unbiased multipliers. We hope this paper allows for a more general use of the two axiomatically best methods in input-output analysis. As an example, this paper analyses the repercussions of the estimated bias in the determination of the key sectors of an economy, as postulated by Rasmussen (1956). As shown in the paper, the estimated bias may induce to wrongly identify key sectors in the Turkish economy for the year 1998.