

Estimating Input-Output Tables from Supply-Use Tables: An Evaluation of the Impacts of Alternative Methods

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Abstract: There are four basic transformation methods available for converting supply-use tables into symmetric input-output tables: (1) Product technology assumption (Each product is produced in its own specific way, irrespective of the industry where it is produced); (2) Industry technology assumption (Each industry has its own specific way of production, irrespective of its product mix); (3) Fixed industry sales structure assumption (Each industry has its own specific sales structure, irrespective of its product mix) and (4) Fixed product sales structure assumption (Each product has its own specific sales structure, irrespective of the industry where it is produced). Two other transformation models are used in practice: the model based on hybrid technology assumption and the Almon procedure. The hybrid technology assumption combines the product technology assumption and the industry technology assumption to avoid negatives in product by product input-output tables. The Almon procedure is an alternative to compile product by product input-output tables which are based in essence on the product technology assumption but avoid negatives in the derived input-output tables. Drawing on a recently compiled set of tables for Kuwait based on 2010 data, this paper explores the results of using input-output models derived under these different assumptions for impact analyses using a series of randomly generated final demand vectors. Are the differences in outcomes analytically significant and can these differences be traced to changes in the location of analytically important coefficients?