Cross-Hauling and Regional Input-Output Tables: The Case of the Province of Hubei, China

Topic: Regional Input-Output Modeling
Author: Yongming Huang
Co-Authors: Anthony Travers Flegg, Timo Tohmo

This paper reports the results of an empirical assessment of the performance of Kronenberg's CHARM (Cross-Hauling Adjusted Regionalization Method), a relatively new non-survey technique that takes explicit account of cross-hauling when constructing regional input-output tables. Survey-based data for the central Chinese province of Hubei are used in this assessment. With CHARM, a key determinant of cross-hauling is held to be the heterogeneity of the products of individual sectors, which is estimated using national data. By making use of published national and regional data for 2007, CHARM is used to construct a detailed regional input-output table for Hubei with 42 sectors, including 17 different types of manufacturing. The CHARM-based estimates of Hubei's sectoral exports, imports, volume of trade, and sectoral supply multipliers are then compared with the official regional figures. However, contrary to the authors' earlier findings for Finland, CHARM does not generate reliable estimates of these magnitudes. This outcome is attributed to the difficulty of getting satisfactory estimates of net exports and heterogeneity for this data set. This problem is, in turn, linked to the relatively small size of the region under examination, which generates around four percent of China's GDP. The findings highlight the crucial importance, especially in relatively small regions, of adjusting any estimates generated by CHARM to allow for any known divergence between regional and national technology and heterogeneity. Various strategies are explored for implementing such adjustments. Note: This paper is currently under review (in revised form) by International Regional Science Review.