Comparing Input-Output Tables of Different Economies: A New Application for Decomposition Techniques?

Topic: Issues and examples of SDA
Author: Michael L Lahr
Co-Authors: Ling YANG

Many measures have been used to compare input-output (I-O) arrays. Most were originally developed to analyze the accuracy of econometric forecasts or at least for comparing vectors of similar dimension. As a result the measures are not entirely satisfactory for comparing matrices. For example, if two economies are the same with the only difference that one has more productive labor (i.e., compensation's share of output is lower), we would expect a "good" measure to reveal that the two economies are essentially the same. Vector-based measures need not show the degree of similarity if they, indeed, reveal the similarity of the economies at all. For this reason the Structural Decomposition Approach (SDA) to analyzing two economies was developed. Interestingly however, when comparing I-O tables of two different regions or when comparing estimated annual accounts to benchmarks for the same year, I-O analysts have uniformly reverted to familiar vector-based measures. For the first time, we use SDA to compare two tables for the same year (the 2002 Washington State to the 2002 U.S benchmark table; and the 2002 annual US table to the 2002 US benchmark) . We compare these findings to those from popular vector-based equivalents.