Refining the Application of the FLQ Formula for Estimating Regional Input Coefficients: An Empirical Study for South Korean Regions

Topic: 809A Regional IO Modelling (1)
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This paper uses survey-based data for 16 South Korean regions to refine the application of the FLQ formula for estimating regional input coefficients. Especial attention is paid to the choice of a value for the unknown parameter δ in this formula. Along with regional size, this value determines the size of the adjustment for regional imports in the FLQ formula. Earlier research on this topic using data for two South Korean regions was done by Zhao and Choi (2015). However, using the same basic data, we were unable to replicate their findings. We also identify several methodological shortcomings and some non-trivial computational errors in this pioneering study. We demonstrate that Zhao and Choi have overstated the optimal values of δ for these two regions and understated the FLQ's accuracy. We also establish that the regression model of Kowalewski (2015) is wrongly applied in computing sector-specific values of δ for these two regions. Furthermore, we show that Zhao and Choi's re-estimation of the regression model of Flegg and Tohmo (2013a) yields erroneous results. As well as reworking Zhao and Choi's analysis and extending it from 2 to 16 regions, we make several refinements to Flegg and Tohmo's original model, which was based on data for 20 Finnish regions. Our paper adds to the work of Flegg and Tohmo (2013a, 2016) and Flegg et al. (2016), the underlying aim of which is to find a cost-effective way of adapting national coefficients, so as to produce a satisfactory initial set of regional input coefficients.