The industry similarity in input-output system of China in 1981-1995: Application of dual scaling and fuzzy clustering

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This paper address the evolution of the similarities between industries from 1981 to 1995 in China by applying dual scaling and fuzzy clustering to input-output systems. The dual scaling is applied to set simultaneously in row and column direction to the simple structure of demand and supply by row and column eigenvector as their weights. The distances of weight between rows reflects the similarity of the industries in sales profile between, and that between columns reflects that in purchases profiles. Because of overlap of cluster of industries, network graph analysis and the fuzzy clustering is applied to find the complex similarity between industries. The consistent findings are as follows: (1) There are increasing overlap or fuzzy in the similarity both in supply and demand with the development of economy in 1981-1995. (2) Supply industries were rapidly specialized and demand was divergence stable over this period; (3) Supply industries were rapidly specialized and demand was divergence stable over this period; while heavy industry, such as Machinery and Equipment, became the industry with the most similar to other industries both from supply profiles and demand profiles.