

Hierarchical Organization of World Commodities Flow Network

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We construct the tree-like networks to show the hierarchical trends of the trade networks for different commodities with evolution of time [1-3]. The hierarchical organization of different commodities is changed significantly due to globalization and financial crises. The tree structure of the man-made products is more hierarchical than the natural products as shown in Fig. 1. The dominating node for different commodities is changed over time. The influence of China in trade networks is observed since 2004. The hierarchical trend is changed significantly if we remove China from trade network. The Jaccard index implies that the structure of the trees is stable over time and the tree structure of the man-made products is more robust than the structure of the natural products during the period of financial crisis.

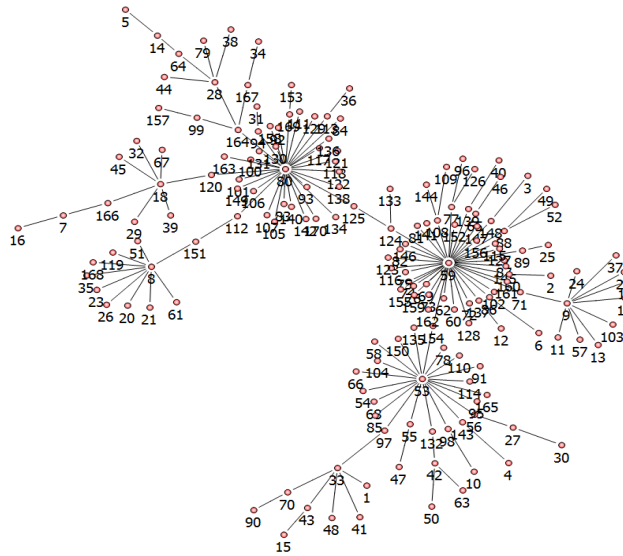


Fig. 1 The minimum spanning tree obtaining from trade flows of machinery and transport equipment

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