Hubs and Authorities in the World Trade & World Investment Network

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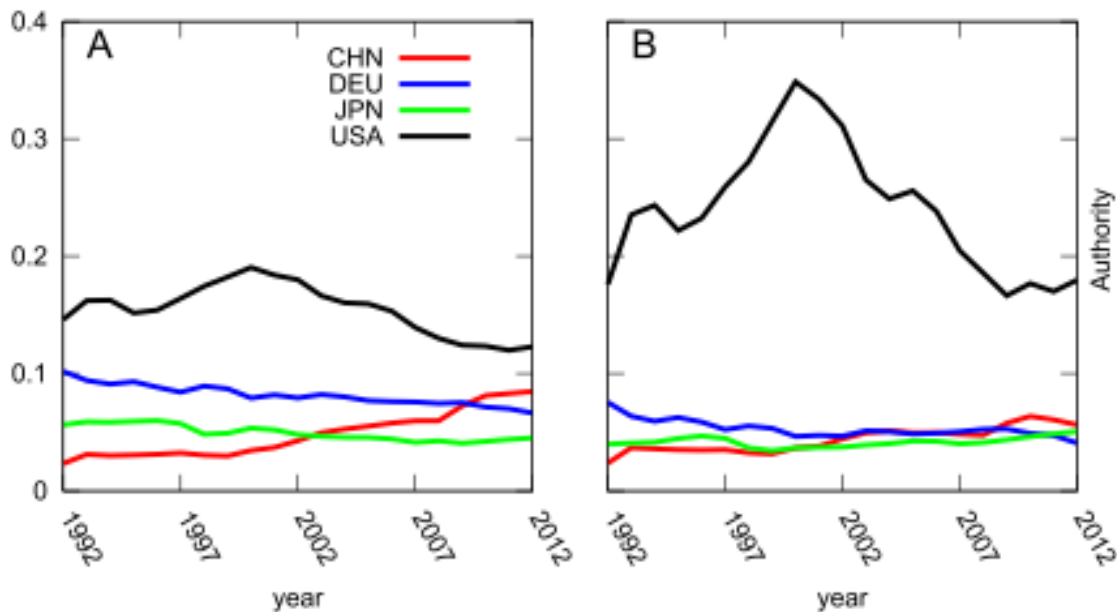4 Graduate School for Advanced Mathematical Sciences, Meiji University, Tokyo, Japan

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Abstract

We investigate the economic hubs and authorities of the world trade network (WTN) as well as world investment network (WIN). Using a well-defined weighted hyperlink-induced topic search (HITS) algorithm, we can calculate the values of the weighted HITS hub and authority for each country. In the context of the WTN, authority values are large for countries with significant imports from large hub countries, and hub values are large for countries with significant exports to high-authority countries. The United States was the largest economic authority in the WTN from 1992 to 2012. The authority value of the US has declined since 2001, and China has now become the largest hub. We also observed that the network structure of the WIN is much simpler than that of WTN, which suggests that high-authority countries like the US and Japan have kept stronger influence in the WIN compared with the WTN.

Keyword: Hub，Authority, Weighted HITS algorithm, World Trade Network, World Investment Network

Figure　Transition of Imports Shares from 1992–2012 shown in panel (A). Transition of Authority Values from 1992–2012 (B)

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