

2005 年度日本経済学会秋期大会 9月17日午後16:00-18:00 会場 A-3

Two-dimensional Fragmentation in East Asia:  
Conceptual Framework and Empirics<sup>♦ †</sup>

Fukunari Kimura (Keio University) and Mitsuyo Ando (Hitotsubashi University)  
([fkimura@econ.keio.ac.jp](mailto:fkimura@econ.keio.ac.jp); [m-ando@econ.hit-u.ac.jp](mailto:m-ando@econ.hit-u.ac.jp))

Abstract

This paper proposes the concept of two-dimensional fragmentation and empirically analyzes the international production/distribution networks in East Asia. Two dimensions of fragmentation are in terms of geographical distance and controllability of a firm for fragmented production processes. The increase in service link cost comes from physical separation of production processes and uncontrollability while the reduction of production costs comes along location advantages and the counterparts' ownership advantages. Our empirical investigation using disaggregated international trade data and micro data of Japanese corporate firms reveals the development of production networks in East Asia with active back-and-forth transactions of parts and components through fragmentation beyond national borders. It also emphasizes their development with sophisticated combination of intra-firm and arm's-length transactions along flexible de-internalization decision-making for outsourcing and with more developed industrial clusters. The paper suggests that policy environment in East Asia has an important role in reducing the service link cost due to uncontrollability as well as physical distance.

JEL code: F10, F23, and L23

Key words: service link, intra-firm trade, cross-border production sharing, outsourcing, micro data

---

<sup>♦</sup> Publication data: *International Review of Economics and Finance* 14 pp.317-348. 2005.

<sup>†</sup> The METI database was prepared and analyzed in cooperation with the Research and Statistics Department, Economic and Industrial Policy Bureau, the Ministry of Economy, Trade, and Industry, Government of Japan and Japan Center for Economic Research.