

Structural Propagation of Productivity Shocks: The Case of Korea and Japan

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We model the transition of technological structure that is associated with the changes in cost induced by the innovation that occurred, using a system of multi-sector, multi-factor production functions. Structural propagation is quantified by using a system of unit-cost functions compatible with multi-level CES, plain CES, Cobb-Douglas, and Leontief production functions whose parameters we estimate via two timely distant input-output accounts. The economy-wide welfare gain obtainable for an exogenously given innovation will hence be quantified via the technological structure after structural propagation. Welfare gain due to productivity shocks is studied as an example, using the 2000-2005 Korean linked input-output table, as well as the 2000-2005 Japan linked input-output table as the source of data.