

ABSTRACT

In this paper we: (1) estimate the effects of international R&D spillovers on total factor productivity growth of the seven largest industrialized countries (G-7); (2) analyze the effect of spillovers on the structure of production, i.e., the effects on factor demand such as labor and investment and output supply; (3) examine the effect of technological transfers on the pattern of trade, i.e., on imports and exports and; (4) calculate the private rates of return on physical capital and R&D investment as well as the social rates of return of foreign R&D spillovers. To achieve the objectives of this study, we have developed a framework that integrates several strands of the available approaches in the literature: the GNP function approach suggested by Burgess (1974) and Kohli (1978), the spillover models proposed by Bernstein and Nadiri (1988), Bernstein and Mohnen (1994), Coe and Helpman (1995) and Park (1995), and the familiar interrelated factor demand and cost models.

Keywords: Productivity, International Trade, Technology Transfer, R&D

JEL Classification Numbers: F₄₁, F₄₃, O₃₁, O₄₇, O₅₇

M. Ishaq Nadiri
Department of Economics
New York University
New York, NY 10003
nadirii@fasecon.econ.nyu.edu

Seongjun Kim
Department of Economics
New York University
New York, NY 10003
kimseong@fasecon.econ.nyu.edu