

***The Dual Nature of Trade:
Measuring its Impact on Imitation and Growth****

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Abstract:

Imports of goods that embody foreign technology can raise a country's output directly as inputs into production and indirectly through reverse engineering of these goods, contributing to domestic imitation and innovation. This paper quantifies spillovers from high technology imports to domestic imitation and innovation in both developed and developing countries. It then considers the contribution of foreign and domestic innovation to real per capita GDP growth.

International patent data for 75 countries from 1965 to 1990 are used to create proxies for imitation and innovation. In conjunction with transportation and communication infrastructure, quality-adjusted R&D, and foreign direct investment, high technology imports positively affect both domestic imitation and innovation. Moreover their role is greater for developing nations than for developed nations. Transportation and communication infrastructure plays the largest role in domestic R&D processes. Finally, use of foreign technology embodied in high technology imports from developed countries plays a far greater role in growth than domestic technology.

Key Words: Embodied Technology, Technological Diffusion, Learning-to-Learn, Imitation, Innovation

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