

# Foreign Technology Adoption as a Flying Propeller

Yunfang Hu\*  
Kobe University

Takuma Kunieda†  
Kwansei Gakuin University

Kazuo Nishimura‡  
Kobe University and RIETI

Ping Wang§  
Washington University in St. Louis and NBER

## Abstract

We construct a dynamic general equilibrium model of foreign direct investment (FDI) and foreign technology adoption, incorporating adoption barriers, international technology spillover, and relative price advantages. A higher FDI conversion efficacy, a lower adoption barrier, or a stronger international technology spillover, together with a lower relative price of FDI, can propel an economy to exhibit a flying geese paradigm, escaping from a middle-income trap and catching up with the world frontier. We calibrate the model to eight representative Asian economies, including Asian Tigers and less-developed countries. The counterfactual analysis confirms that technology-embodied FDI serves as a key flying propeller, explaining almost 40% of their economic growth on average. The analysis also shows that foreign technology spillover has a more significant role for growth gains in Asian Tigers than in non-Tigers, which mean that foreign technology spillover drives Asian Tigers' growth miracle.

**Keywords:** Flying Geese Paradigm, Technology Choice, Foreign Direct Investment.

**JEL Classification Numbers:** O40, E20, D20, F21, F43.

---

\*Faculty of Economics, Kobe University, 2-1 Rokkodai-cho Nada-ku, Kobe, 657-8501, Japan, Phone: +81 78 803 6838, E-mail: yhu@econ.kobe-u.ac.jp

†School of Economics, Kwansei Gakuin University, 1-155 Uegahara Ichiban-Cho, Nishinomiya, Hyogo, 662-8501, Japan, Phone: +81 798 54 6482, E-mail: tkunieda@kwansei.ac.jp

‡RIEB, Kobe University, 2-1 Rokkodai-cho, Nada-ku, Kobe, 657-8501, Japan, Phone: +81 78 803 7005, E-mail: nishimura@rieb.kobe-u.ac.jp

§Corresponding author. Department of Economics, Washington University in St. Louis, MSC 1208-228-308, One Brookings Drive, St. Louis, MO 63130, U.S.A. Phone: +1 314 935 5632, E-mail: ping-wang@wustl.edu