

“International Trade, Technology Diffusion, and the Role of Diffusion Barriers”

(in English)



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Biography

Dr. Yao Amber Li currently is an assistant professor in Department of Economics, School of Business and Management, HKUST (Hong Kong University of Science and Technology). She obtained her PhD from the University of Western Ontario (UWO, Canada) in 2010. Ms Yao Li's major fields are international trade, international macroeconomics, development and applied economics. Her research interests include innovation, knowledge diffusion and technology transfer and upgrading, agglomeration and economic geography, TRIPS (Trade-Related Aspects of Intellectual Property Rights), and emerging economies. She worked as a research fellow in Planning Research Institute, Ministry of Information Industry of China between 2003 and 2005. She has participated in a series of China's national research projects, and written or co-authored some scholarly articles and policy articles. She was one of the main framers and revisers of several China's national industrial policies (digital TV, integrated circuits, software, etc.), and major policies regarding FDI, exporting, industrial agglomeration and economic development zones for Chinese government. She holds a BA (2001) and an MA (2003) in Economics from Peking University (P.R. China).

Abstract

This paper assesses the welfare impact of trade and technology diffusion as well as the change in the cross-country distribution of GDP due to removal of trade costs and diffusion barriers. The model extends the multi-country Ricardian trade model of Alvarez and Lucas (2007) to include technology diffusion with diffusion barriers. A key feature of the model is that some countries export goods produced by foreign technology via diffusion. The model is calibrated to match the world GDP distribution, the merchandise trade and technology diffusion shares of GDP, and real GDP per capita for a sample of 31 countries. Data on international trade in royalties, license fees, and information intensive services are used as proxies for international technology diffusion. There are three key findings. First, the welfare gains from removing diffusion barriers are 4–60% across countries, generally larger than the gains from removing trade costs (8–40%). The main reason is that diffusion has a larger impact on the nontradable sector due to the substitutability between trade and diffusion in the tradable sector. Another reason is that diffusion barriers are generally larger than trade costs. Second, removing trade costs and diffusion barriers has little impact on reducing the dispersion of real GDP per capita (measured by Gini index) across countries. Compared to the benchmark, free diffusion decreases the Gini by 4%, and free trade decreases the Gini by 2%. Third, removing diffusion barriers increases trade, which indicates that diffusion may enhance trade.

ALL ARE WELCOME

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