## 國立東華大學應用數學系專題演講

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Beijing University of Aeronautics & Astronautics

講題:The Evolution of Free Trade Networks.

時 間:101年9月7日(星期五) 10:00-11:30

地 點:理學院A324會議室

## 摘 要

We consider the evolutionary dynamics of bilateral free trade agreements (FTAs) among N countries with bounded rationality. We first explore the endogenous tariffs case in Goyal and Joshi (2006) and precisely characterize the set of pairwise stable FTA networks. Then, we develop a dynamic model under random perturbations and identify stochastically stable equilibria to remove the prediction uncertainty inherited in static analysis. We obtain a striking result: For the case of three countries, the network with two linked countries and one singleton emerges most frequently and global free trade is achieved with lower probability. However, for the case of four or more countries, for most of the time, only the complete FTA network is observed, implying the attainment of global free trade. We conclude that the three-country model prevailed in the trade literature may be insufficient to study the long run behavior of trade liberalization, and the total number of individuals plays a crucial role in examining the long-run outcome of the evolution of network formation games. Finally, we illustrate the main results through simulations.



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