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Volume of Trade and Dynamic Network Formation in Two-Sided Economies[1]

Roland Pongou[2] and Roberto Serrano[3]

Abstract: We study the long-run stability of trade networks in a two-sided economy. Each agent desires relationships with the other side, but having multiple partners is costly. This cost-benefit tradeoff results in each agent having a single-peaked utility over the number of partners–the *volume of trade*–, the peak being greater for agents on one side than those on the other. We propose a stochastic matching process in which self-interested agents form and sever links over time. Links can be added or deleted, sometimes simultaneously by a single agent. While the unperturbed process yields each pairwise stable network as an absorbing state, stochastic stability in two perturbed processes provides a significant refinement, leading respectively to egalitarian and anti-egalitarian pairwise stable networks. These distinct network configurations have implications for the concentration on each side of the market of a random information shock, which may affect structurally identical economies differently. The analysis captures stylized facts, related to herd behavior, market fragmentation, concentration and contagion asymmetry, in several two-sided economies. It also rationalizes long-run population imbalance between the two sides of certain buyer-seller markets.

JEL classification numbers: C73, D01, D03, D85, F16, J00

Keywords: Two-sided economies, trade networks, pairwise stability, stochastic stability, herd behavior, fragmentation, concentration, contagion asymmetry.

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