

Strategic Network Models: From Building to Bargaining

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Abstract

We consider two game theoretic network models - one concerning network formation, and the other concerning bargaining on exchange networks. In the first case, we define the model and show that it has equilibria which support many observed network structures, including triadic closure and heavy-tailed degree distributions. We do not, however, consider the problem of finding dynamics which converge to (some of) these equilibria. In the second case, we study the well-known Nash bargaining equilibria on exchange networks. We construct natural local dynamics, achievable by actual players, and show that this dynamics converges quickly to an approximate Nash bargaining equilibrium.

This first part of the talk represents work with C. Borgs, J. Ding and B. Lucier, and the second work with M. Bayati, C. Borgs, Y. Kanoria and A. Montanari.