Institutional Change on a Network

Jennifer M. Larson[1,*]

1. Ph. D. Candidate, Harvard University
* Contact author: jmlarson@fas.harvard.edu

A lingering puzzle in the study of political and economic development is why institutions form successfully in some places and not in others. Institutions desinged to regulate common pool resources (fisheries, forests, irrigation systems, watersheds, etc.) are particularly puzzling. Even if resources are scarce, each individual has an incentive to overuse the resource; even if all others agree to regulate their own use of the resource, an individual has an incentive to deviate from the agreement and continue to overuse. Despite the clear prediction of collective action problems, some groups are able to create and sustain regulatory institutions. Other groups are not as successful. Certain geographic and demographic variables correlate with successful institutions, and some assumptions imposed on collective action games result in equilibria that entail institutions (1; 2). Nonetheless, we are still left without a compelling explanation for the *emergence* of institutions. I use a network approach to explicitly account for the underlying information structure of a population. Some individuals have more information than others; some sources of information are more valuable than others. Since regulatory institutions are more valuable as the number of people willing to submit to the institutions increases, the spread of willingness to adopt an institution is analogous to the diffusion of communication technology. I use simulation techniques in R to characterize the relationship between network variables (size, degree distribution, shape) and the emergence of institutions.

References

[1] E. Ostrom, *Governing the Commons: The Evolution of Institutions for Collective Action*, Cambridge University Press, 1990.

[2] ———, *Understanding institutional diversity*, Princeton University Press, 2005.