International Relations, Complex Networks, and Country Macroeconomic Dynamics

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Abstract

In the last decades, complex-network tools and techniques have increasingly become familiar to micro and macro economists. In this talk, I firstly introduce some basic notions of complex-network analysis. Next, by means of simple examples and applications, I try to show how a network-representation of agent behaviors and interactions can be useful in economics to: (i) discover new stylized facts and regularities about the structure and evolution of economies; (ii) understand how economic shocks spread and crises diffuse. Finally, I present an empirical application where network indicators are used, in addition to traditional ones, to better explain the spatio-temporal patterns of country per-capita income. Results from econometric panel-data exercises robustly indicate that country global centrality in the macroeconomic networks of trade, finance, and migration can boost per-capita income, net of all other covariates. This suggests that, in addition to country macro-economic profiles, direct and indirect international relations do matter in explaining country macroeconomic dynamics.