Prof Weiwen YIN (University of Macau)
Oct 7 Wed 4-5:30pm

Title: Exploring Optimal State-building using Reinforcement Learning

Abstract: Why do some centralized states keep official tax rates low? We model state building as a Markov decision process: a forward-looking ruler chooses centralization, taxation, and public goods under rebellion and invasion risks, and reinforcement learning, an artificial-intelligence method in which the ruler learns by trial and error, computes the optimal policy. That policy is non-monotone: centralization first raises fiscal capacity but eventually undermines elite compliance, so the ruler optimally lowers official taxation---a political fiscal-capacity trap, with a parallel trap in territorial size. Japan's fiscal history is consistent with the prediction: official extraction follows an inverted-U across regimes.