HKUST ECON Seminar

16 March, 2026, 3:30 – 5:00 pm

Data-Driven Hold-Up and Relational Contracts

Prof Zhuoran Lu, Shanghai Jiao Tong University

Abstract:

This paper studies how relational contracts mitigate hold-up problems between platforms and online sellers when platforms use their data advantage to compete against sellers. In each period, the seller decides whether to sell on the platform and how much to invest in product innovation, which depreciates without continued investment from the seller. The platform then chooses whether to copy the seller's product. If it does, the two parties compete; otherwise, they share the monopoly profit. We show that with rapid depreciation, the optimal relational contract is stationary and efficient when the discount factor is sufficiently high. By contrast, with slow depreciation, the platform always copies the seller under high discount factors, whereas cooperation can be sustained at intermediate levels. The efficiency of relational contracts depends critically on the seller's outside option and the depreciation rate. The outside option has discontinuous and nonmonotonic effects on efficiency, implying that a higher outside option does not necessarily benefit sellers. Moreover, the depreciation rate can have opposing effects on efficiency, depending on whether the platform copies the seller when the relational contract is breached.