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Simulation of asset pricing in information networks

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Highlights

(1) We simulate the asset price in the framework of information networks when the number of agents is constant and tends to infinity.

(2) A higher risk aversion coefficient, a lower information uncertainty, or a higher standard variance of payoff volatility induces a lower asset price when the number of agents is a constant.

(3) A higher number of agents induces a higher aggregate demand when the number of agents is a constant.

(4) A higher network connectedness or a lower risk aversion coefficient induces a higher information driven volatility component and a lower Sharpe ratio while the number of agents tends to infinity.

(5) A higher network connectedness or a lower risk aversion coefficient induces a higher market efficiency while the number of agents tends to infinity.

(6) Liquidity driven volatility component, trading profit, price volatility are non-monotonic functions of network connectedness or risk aversion coefficient while the number of agents tends to infinity.

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