Multilateral Risk-Sharing with Manipulation

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Abstract

We study multilateral risk-sharing when the state of nature is non-verifiable, such that contracts are conditioned on a state-dependent signal (e.g., net earnings in a financial report). A subset of the agents can manipulate the signal's realization at some cost (e.g., by performing financial acrobatics) and as a result Pareto-optimal risk-sharing is precluded. The agents are able to write bilateral side-contracts without withdrawing from the prevailing risk-sharing agreements. Such side-contracts can be used to incentivize one of the parties to manipulate the signal. Using a weak stability notion we show that, in general, stable contracts are not constrained-Pareto-optimal. We derive closed form solutions for the maximal possible coverage in a few settings (reinsurance of a local shock, joint venture) and show that it is significantly below the constrained-Pareto-optimal level of insurance. Moreover, it is non-monotone in the number of agents who can manipulate the signal.