An Experimental Investigation of Fairness in a Principal-Multiagent Relationship

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Abstract

Issues of fairness within the agency framework have traditionally been investigated – both theoretically and experimentally – within two alternative approaches: a "vertical", hierarchical framework (studies of fairness in the agency relationship between one principal and one single agent) and a "horizontal", agent–to–agent framework (studies of reciprocity in peers' interactions under alternative incentive schemes). We explore in the laboratory a game which integrates vertical and horizontal relationships and allows to investigate how principal's fairness affects cooperation between two interdependent agents performing a simple production game. We set a 2–stage game where, in the second stage, agents play a prisoner's dilemma game and, in the first stage, the principal can withdraw any share of the output generated by the agents in the second stage. Despite theory predicting that no fairness should be observed by the principal and no cooperation should be observed by agents, our experimental findings show that agents are to some extent sensitive to principal's fairness. When the principal plays unfair (fair) agents are frequently observed to jointly defect (cooperate). Thus, fairness considerations on principal's actions may act as a coordination device for the agents and reciprocal behavior may, as a result, affect their propensity towards cooperation or defection in the game.

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