

# Economic ties and social dilemmas

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## **Extended abstract**

A substantial amount of experimental research has been undertaken to explain under what circumstances cooperation in social dilemmas can be sustained without centralized intervention. The self-regulatory institution that has been analyzed most extensively is that of decentralized pecuniary punishment, where subjects can impose costly punishment on free-riders. In this paper we explore the effectiveness of a more natural self-regulatory mechanism based on the observation that agents tied in a social dilemma game are often also dependent on (bilateral) cooperation in other economic activities. Selectively excluding individuals who free-ride in the social dilemma situation from the benefits of cooperation in these alternative economic activities may be used as a sanctioning device. We model the social dilemma game as a standard CPR game and the alternative type of economic activity as a two-sided gift-giving game.

Our experiments show that indeed selective exclusion occurs naturally if subjects interact with the same group of individuals in both activities, and is an effective mechanism in enforcing cooperation in the CPR game. In the community treatment (the Linked treatment), efficiency of the CPR game is significantly higher than in the Unlinked treatment (in which subjects are not able to selectively exclude CPR free-riders from the benefits of the gift-giving game), whereas the efficiency of the gift-giving game is identical across the two treatments. That means that, unlike the pecuniary punishment mechanism, aggregate efficiency unambiguously increases when linking the two games. Thus, our experiments suggest that strengthening community ties gives rise to powerful pro-social incentives with respect to cooperation in social dilemma situations and hence improves community welfare.

However, the magnitude of the efficiency gain crucially depends on the profitability of the alternative activity (the gift-giving game) as compared to the CPR game: the more profitable the gift-giving relationship, the larger the efficiency gains. Indeed, the gift-giving game is observed to unravel faster if the costs of providing gifts are high, because selective exclusion is less effective in inducing lower extraction effort levels as well as more hazardous for the person imposing the punishment in terms of the possibility of retaliation.