On the definition and comparability of individual and group incentives for environmental conservation

Incentive payments for conservation activities, also known as Payment for Environmental Services (PES), are increasingly being adopted worldwide (Salzman, Bennett, Carroll, Goldstein, & Jenkins, 2018). However, if land is under joint ownership, payments conditional on individual performance are either too costly or impossible to implement. This is also the case if activities are difficult to monitor at the individual level and/or ecosystem services are only observed on an aggregate level (Engel, 2016). In other cases, where both group and individual performance-based payments are feasible, the question arises as to which of the two types lead to better conservation outcomes. Table 1 illustrates four combinations of performance-based payments with respect to the conditionality and the recipient. Payments can be made either to a group or to individuals and can be conditional on the individual or the group performance. As three combinations include a collective dimension (categories A, B, C in Table 1), we consider these as group payments. Gatiso, Vollan, Vimal, and Kühl (2018, hereafter GVVK) implement two group treatments (A and B) and compare them to fully individual payments (D) with the result that conservation effort is highest with D > B > A.¹

Group conditionality (as in A and B) introduces two opposing mechanisms that potentially affect conservation outcomes:

1. Peer effects within the group that increase compliance with conservation.
2. Free-riding incentives since non-complying individuals can benefit from group payments while not bearing the cost for conservation. This represents a classical social dilemma situation.

In their response to GVVK, Salk and Travers (2018, hereafter ST) argue that the comparison by GVVK between type B and D is not entirely reasonable due to higher free-riding incentives in B. They state that any ceteris paribus comparison between group (B) and individual conditionality (D) should solely differ with regards to peer effects and not to peer effects and free-riding incentives. As pointed out by ST, peer effects are indisputably a strong driver of compliance in group settings. However, we argue that any group conditionality also inherently introduces free-riding incentives. Therefore, ceteris paribus comparisons as advocated by ST provide little evidence for real-world PES schemes.

Economic experiments are being increasingly applied as they are useful tools to single out specific aspects of PES (e.g., Andersson et al., 2018). Nevertheless, when looking at the positives of group conditionality (peer effects), we should not forget the negatives (free-riding incentives in groups). For policy recommendations, the relative importance of the two effects depends on the specific context at hand. Future research could look into the various aspects behavioral economists and others have identified to harness peer effects (e.g., Midler, Pascual, Drucker, Narloch, & Soto, 2015) and how these can be introduced in group-performance PES schemes.

¹ Type A of Table 1 is often implemented in practice due to lower transaction costs or equity concerns when donating money to schools or infrastructure projects in the village and can be easily compared to B. GVVK include three treatments: CBP (type A), EBIP (type B), and PBIP (type D). We think that collective payments conditional on individual performance (type C) offer few advantages and are of little interest.
TABLE 1 Individual vs. group payment characteristics (grey shaded cells represent group payments)

| Conditionality | Group | Individual |
|----------------|-------|------------|
|                | Type A | Type B     |
|                | Type C | Type D     |

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