

Voluntary contributions to multiple public projects

Maurice Koster, Hans Reijnierse, Mark Voorneveld

Speaker: Maurice Koster

e-mail: m.a.l.koster@uva.nl

University of Amsterdam

Department of Quantitative Economics

THE NETHERLANDS

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ABSTRACT

The problem of financing a set of discrete public goods by private contributions is studied. The corresponding cooperative game, the realization game is shown to be convex. For the noncooperative setting we study a realization scheme that induces a strategic game.

This contribution game is shown to be a generalised ordinal potential game. With the strategy profiles maximizing utilitarian welfare as strong Nash equilibria. Each strong Nash equilibrium corresponds in a natural way with a core element of the realization game, and vice versa. Moreover, each strong Nash equilibrium is coalitional proof.

The basic techniques in this paper are graph theoretical: flow networks, minimal cuts, maximal flows.