## The Free Rider Problem: a Dynamic Analysis

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## Abstract

We study the Markov equilibria of a model of free riding in which n infinitely lived agents choose between private consumption and contributions to a durable public good. We consider economies with reversibility, where investments can be positive or negative; and economies with irreversibility, where investments are non-negative and the public good can only be reduced by depreciation. With reversibility, there is a continuum of equilibrium steady states: the highest equilibrium steady state of g is increasing in n, and the lowest is decreasing. With irreversibility, the set of equilibrium steady states converges to a unique point as depreciation converges to zero: the highest steady state converges to the efficient steady state as agents become increasingly patient.