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**PUZZLING OVER SUSTAINABILITY:  
AN EQUILIBRIUM ANALYSIS**

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**Abstract**

In this paper we model an overlapping generations economy in which individuals are endowed with a renewable resource. This resource can be exploited at no cost by the young households and provided to production. A joy-of-giving bequest motive motivates the transfer of the unexploited resource to the heirs. The study of intertemporal equilibrium reveals three puzzles neglected by the literature on sustainability. First, the existence of a bequest motive does not automatically guarantee a sustainable future. Second, human exploitation may preserve the resource in equilibrium but at a sub-optimal rate; in this case, both those who exploit too much and those who do not exploit enough should run a capital stock lower than the golden rule level. Third, there exist fluctuating transitions to a sustainable future in which some generations are worse off than both their ascendants and their descendants.

**Keywords:** overlapping generations, sustainability, altruism, natural resource.

*JEL Classification:* D91, Q20, D64.

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