

Transition from a Linear Economy toward a Circular Economy in the Ramsey Model

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Abstract

We construct a Ramsey-type model where households recycle waste generated by consumption and the non-recycled waste has negative externality. The aim of this paper is the following two points. First, we examine a structural change process from “a linear economy” based on consumption-disposal toward “a sound material-cycle economy” or “a circular economy” based on consumption-recycling; Second, we examine dynamics of optimal consumption tax and recycling subsidy. In addition, we discuss the Environmental Kuznets Curve (EKC). Previous theoretical literature explains mechanism of EKC by changes in production sectors: such as an abatement technology or technological change. In contrast, this paper tries to show EKC through the aforementioned structural change process.

Keywords: Household waste recycling; Economic growth; Environmental policies

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