

The Effects of Implementing a Deposit-Refund Scheme for a Recyclable Product

Mariko Onoda*

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Abstract

In this paper, we construct a static model of an economy where three economic agencies: households, recyclers, and producers, exist. Three markets: the market of goods, waste, and recycled resource, connect these agencies. We focus on two environmental policy targets: the decrease of the virgin natural resource and the increase of the demand for the recycled resource. We assume that in order to attain these targets, we use two policy instruments for households: the “refund” and the “deposit”, separately. Our comparative static analysis suggests that whether we can attain each target or not depends on the price elasticity of demand for goods if we use the “refund” for households as a policy instrument. On the other hand, if we use the “deposit” on households, then the price elasticity of demand for goods is not relevant to the results. We also find that these two targets can not be attained simultaneously under the assumption of our model.

Keywords: deposit-refund system, waste disposal, recycling, recycled resource, virgin natural resource

JEL classification: Q20

*Corresponding author: School of Economics, Kwansei Gakuin University. 1-1-155 Uegahara, Nishinomiya, Hyogo, 662-8501, Japan. Tel: +81-798-54-6204. Fax: +81-798-51-0944. E-mail: bkg49364@kwansei.ac.jp.