

Recycling and environmental policies in the presence of green consumers

Yasuyuki Sugiyama¹ and Patcharin Koonsed²

Abstract

In this paper, we adopt the model of environmental quality differentiated products and green consumers in order to analyze the effect of recycled content standards (RCSs) in recycling society. When the upstream recycling firm is a monopoly and the downstream final goods firms are duopolists that operate under Bertrand or Cournot competition, a tighter RCS stimulates the demand for recycled materials but depreciates the price of the materials. Consequently, the price of each final good is getting cheaper, and then the consumption of the goods augments. Hence, the RCS increases consumers' surplus and the profits of all firms, however, deteriorates pollution. The effect of a tighter RCS on welfare is determined by the degree of these effects. When international trade in recycled materials takes place, a stricter RCS can have an adverse effect. The RCS improves the environment if the price of recycled materials is higher than virgin materials' price.

Keywords: Recycled content standard, Green consumer, Vertical differentiation, Bertrand competition, Cournot competition

JEL Classification: Q53, Q58

¹ Faculty of Economics, Fukui Prefectural University, Email: sugiyama@fpu.ac.jp

² Graduate school of Economics, Osaka University, Email: qge820kp@student.econ.osaka-u.ac.jp