

Ecolabels and Market Segmentation in the Automotive sector

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Abstract

Both in the EU and in the US eco-labeling schemes are an increasingly popular instrument to stimulate the demand for more environmentally friendly goods. The main idea behind eco-labeling schemes is that this increased demand will then stimulate firms to supply more environmentally friendly goods. Firms can achieve this by innovating or by changing their product portfolio or by doing both at the same time. It has however been difficult to assess whether eco-labeling schemes realize their intended outcomes and in some studies no environmental effect of eco-labeling is found (OECD, 1997; Teisl et al., 2002). Most studies thereby focus on the demand side rather than on the supply side effects of labels (an exception is Jamalpuria, 2012). A possible explanation for the diffuse effects of eco-labels is that for the individual firm the best strategic response to the incentives provided by eco-labels is not necessarily a more environmentally friendly product portfolio. Product portfolio decisions are not made only in relation to consumers but also with respect to the (expected) strategies of other firms; this strategic behavior in response to eco-labeling is the topic of the current paper.

For consumers eco-labels provide information about the environmental performance of a product (Gallastegui, 2002). Eco-labels thereby introduce an additional performance characteristic that consumers can take into account in their purchase decision (Truffer et al., 2001). For firms eco-labels thus provide an additional source of consumer heterogeneity. Firms can exploit this heterogeneity through market segmentation and strategic product positioning. The aim of this paper is to investigate the responses of firms to the introduction of eco-labeling schemes. Our application domain is the automotive sector. The car market is one of the largest markets for durable goods and has a significant contribution to the emissions of greenhouse gasses (IPCC, 2011). The empirical base for the analysis is a database consisting of all car models that were available on the Dutch car market between 2001 and 2010. The database contains information on performance characteristics of the car models including eco-labels and CO₂ emissions but also characteristics describing fuel type, weight and type of car (for example, family car or sportscar). Using this database we calculate characteristics of the portfolio and changes over time in these characteristics for the different car manufacturers and relate these characteristics to the environmental performance of the different portfolios. The results of the analysis show that although overall environmental performance has improved this is not true for all car manufacturers, as the different manufacturers have chosen very different portfolio management strategies.