

Carbon Labels Have More Effect Than Taxes and Injunctive Norms on Sustainable Consumption and Learning in an Experimental Online Grocery Shop

Ayşegül Kanay¹, Laurent Waroquier², Denis Hilton¹, Stefan Ambec³, Estefanya Vazquez¹,
Timo Goeschl⁴ and Stéphane Cézéra³

¹University Toulouse-Jean Jaurès

²Université Clermont Auvergne

³Toulouse School of Economics

⁴Heidelberg University

Contributions:

Aysegul Kanay (doctoral student): The main author and contributor to the paper, conceptualisation, data analysis, writing, design of the experiments, recruitment of participants, development of the experimental platform.

Laurent Waroquier: Conceptualisation, writing, review, editing, supervision, development of the experimental platform, design of the experiments.

Denis Hilton: Conceptualisation, writing, review, editing, supervision, design of the experiments.

Stefan Ambec: Conceptualisation, writing, review, editing, supervision, design of the experiments.

Estefanya Vazquez: Conceptualisation, review, editing, design of the experiments, recruitment of participants, development of the experimental platform.

Timo Goeschl: Conceptualisation, design of the experiments.

Stéphane Cézéra: Development of the experimental platform, recruitment of participants, and logistic help.

Extended Abstract

Carbon Labels Have More Effect Than Taxes and Injunctive Norms on Sustainable Consumption and Learning in an Experimental Online Grocery Shop

With the increasing greenhouse gas emissions caused by food consumption, policy makers have become interested in tools that can reduce these emissions. Carbon taxes, which were considered as an emission reduction tool, have been studied in different countries in different contexts such as implementation in the energy consumption. But, there are limited number of studies that have investigated the possible use of carbon tax in grocery shopping. Hence, over two experimental studies, we investigated the impact of a linear carbon tax on the sustainability of shopping baskets in the form of reduced carbon footprint. Moreover, we tested the effectiveness of non-monetary instruments namely injunctive norms and carbon footprint labels using a Traffic Lights system. We created a high fidelity experimental online grocery-shopping platform to test our hypothesis. In our first experiment, we tested if implementing a carbon tax on the grocery products would decrease carbon footprint of shopping baskets. Moreover, we wanted to test if the use of injunctive norm and tax salience would amplify this decrease. We assume that in a condition where norm is activated with an injunctive normative message and where the tax amount implemented on the products are displayed, consumers would have baskets with lower carbon footprint since they would feel pressured to act sustainably and also have information about how to achieve this goal. We tested two different kinds of saliences, one by displaying the implemented tax amount for all the products together with their initial price and second by displaying the implemented tax amount for only products, which have the highest carbon footprint. Additionally, we investigated whether the implementation of carbon tax would improve product carbon footprint knowledge measured with a survey; we hypothesised that rendering tax more salient

by displaying its amount can inform consumers about the carbon emission of that product and hence improve product carbon footprint knowledge. In our second experiment, we improved our design to be able to detect the main effects of each independent variable and their interactions. Together with the carbon tax, we wanted to test the main effect of Traffic Lights carbon footprint label, new variable introduced in this experiment, and the main effect of injunctive norm on the carbon footprint of shopping baskets. We assume consumers would reduce their carbon footprint when exposed to these manipulations. Similarly, we investigated the impact of carbon tax and Traffic Lights labels on product carbon footprint knowledge assuming to increase it. Across both experiments, our results showed that carbon tax had little or no impact on either sustainable grocery shopping or knowledge of product carbon footprint even when the tax was made salient. Norm did not seem to have an impact on the sustainability of the shopping baskets either, but unexpectedly, had an impact on the product carbon footprint knowledge. On the other hand, Traffic Lights carbon labels had a significant impact on both carbon footprint of shopping baskets and on acquiring carbon footprint knowledge. We discuss potential explanations for the relatively weak or non-existent effect of linear taxes in our studies, and the implications of our results for policy makers who aim to diminish carbon emissions in this domain.