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Increasing Sustainable Consumption in Switzerland:
The Influence of Eco-Scores on Food Choice

Ursa Bernardic [1], Suchita Srinivasan [1], Massimo Filippini[1]
[1]Center for Energy Policy and Economics, ETH Zürich, Switzerland

12 RESPONSIBLE CONSUMPTION AND PRODUCTION

1 Introduction

Transition to environmentally sustainable nutrition is needed urgently (Springmann et al., 2018)

Very little has been done to foster changes in everyday food consumption patterns on consumer side (Codagnone et al., 2016; Heinold et al., 2022; Wicki et al., 2022)

88% of EU consumers are in favor of mandatory sustainability labelling on food items (Cook et al., 2023).

2 Method Overview

Motivation:

- Product-Specific Environmental Impact Scores: each product is rated on multiple categories (CO_2 footprint, water footprint, and soil usage) and weighted according to the amount of energy (kcal) it contributes to the finished product

Research Question:

- Are consumers aware and knowledgeable of sustainable labels?
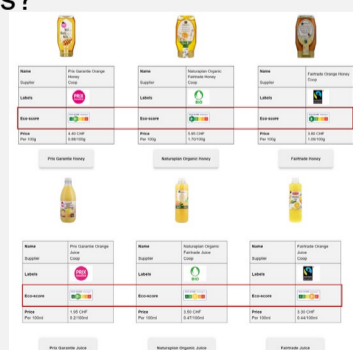- How effective are Eco Score Labels and can we increase their effectiveness?

Data:

- Econometric analysis of store scanning data (real purchases)
- Online Experiment with RCT (Informational Nudging with video)

3 Materials

- While the shop implemented the Eco score online, the in-store shop did not change

- What is the impact of the introduction of the eco-score on the share of sales of three types of products?
  a) Budget-label
  b) Fairtrade
  c) Organic/Biologic

Contact*:

✉ ubernardic@ethz.ch
in www.linkedin.com/in/ursabernardic
🐦 @Ubernardic

cepe
Centre for Energy Policy and Economics
Swiss Federal Institutes of Technology

4 Results and Discussion

Scanning Data: Preliminary Results (Real Purchases)

- We utilize a *difference-in-difference* analysis to evaluate the impact of the eco-score on the shares of the three types of products.
- **Treatment group** = individuals who shop online (where the labels were implemented), **Control group** = individuals who shop at the physical store
- **Pre-treatment period**: prior to November 2022, **Post-treatment period**: on and after November 2022

Effect of the eco-score on shares of the three products can be given by:

$$S_i = (S^T_{A,i} - S^T_{B,i}) - (S^{NT}_{A,i} - S^{NT}_{B,i})$$

Product	Budget	Fairtrade	Bio
Honey	-0.02	-0.005	0.027
Orange Juice	0.029	-0.014	-0.014

- We can also estimate a difference-in-difference model using a regression-based methodology:

$$S_{i,j,t} = \alpha_0 + \beta T_i + \gamma P_t + \delta T_i * P_t + \varepsilon_i + \zeta_t + \mu_{it}$$

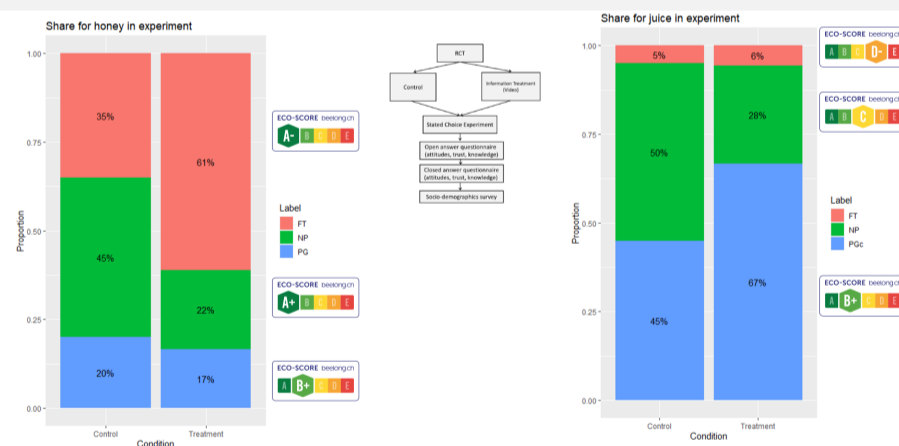| Product	Outcome	Regular Difference-in-Difference			Poisson Difference-in-Difference		
		Bio share	FT share	PG share	Bio share	FT share	PG share
Honey	$T_i * P_t$	0.028*	0.006	-0.034***	0.088*	0.079*	-0.137**
		(0.016)	(0.019)	(0.013)	(0.045)	(0.044)	(0.058)
	Obs.	203687	203687	203687	57677<	46300	35754
Orange juice	$T_i * P_t$	0.009	-0.011	0.002	0.027	-0.121	0.004
		(0.008)	(0.008)	(0.006)	(0.023)	(0.097)	(0.011)
	Obs.	473021	473021	473021	184393	92765	224348

- $S_{i,j,t}$ denotes the share of product-type "j" bought by individual "i" in month "t", T_i denotes whether individual "i" is treated (bought online), P_t denotes whether month "t" was after the treatment start date, ε_i denotes individual fixed effects, ζ_t denotes month fixed effects, μ_{it} denotes the residual term.
- We are interested in estimating δ, the effect of shopping online in the treatment period.
- We estimate both a regular diff-in-diff model, and a diff-in-diff model using the Poisson methodology (to account for zeroes in our dependent variable) and fixed effects.

Experiment Data: Impact on stated choice

5 Conclusions

This project integrates real purchasing data with a randomized controlled trial (RCT) to demonstrate the impact of eco-labels on consumers' actual purchase decisions.

While an informational nudge (RCT treatment) effectively enhances consumers' objective understanding of eco-labels, it does not significantly influence their stated purchase intentions

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