

# Coarse and Precise Information in Food Labeling

JOB MARKET PAPER

[Click here for the latest version](#)

Silvio Ravaioli<sup>†</sup>

November 15, 2021

## Abstract

Public authorities and companies often adopt simple categorical labels to convey information and promote the purchase of healthy, ethical, or environmentally-friendly products. Why are these “coarse” labels favored over more detailed ones which should allow the consumer to make better decisions? This paper investigates whether precise labels can be more effective and informative than coarse ones. In a preregistered online study conducted on a representative US sample, I manipulate front-of-package labels about foods’ calorie content. I find that coarse-categorical labels generate a larger reduction in calories per serving compared to detailed-numerical labels despite providing less information (-3% and -1% calories, respectively). Results also show that participants prefer coarse labels. Choices violate the predictions of Bayesian decision theory, suggesting that consumers are less responsive to detailed information. A bounded rationality model with precision overload can capture the main experimental results: detailed labels are more complex and harder to understand, and consumers face a tradeoff between simplicity and precision. Some information helps, but too much detail can be confusing, and lead to less healthy food choices.

**Keywords:** Consumer Behavior, Experiment, Attention, Nutrition, Food Labels.

**JEL codes:** C91, D83, D91, Q28.

---

<sup>†</sup> Department of Economics, Columbia University, 420 West 118th Street, 10027 New York. E-mail address sr3300@columbia.edu. Many thanks to Mark Dean and Michael Woodford for the invaluable advice and support on this project. I also thank Alessandra Casella, Eric Johnson, Jacopo Perego, Bernard Salanié, the participants at Columbia University’s Economics Department Colloquia, and the member of the Cognition and Decision Laboratory for the valuable feedback. This project has received funding from Columbia University’s Program for Economic Research and Columbia Experimental Laboratory for Social Sciences. All data were collected with the approval of the Columbia University Institutional Review Board (protocol AAAT5268). The experimental design, hypotheses, and sample size were preregistered on AER Social Science Registry under the name “Coarse and Granular Nutritional Labels” (trial AEARCTR-0007856).