Can Information Costs Confuse Consumer Choice? Nutritional Labels in a Supermarket Experiment

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Discussion

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*Opinions expressed here are those of the author and do not reflect the views of the ERS or the USDA

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Overview

- Food changed from simple farm products prepared and eaten at home to complex processed products often eaten directly or with minimal preparation
- Preparers and processor know what's in the foods, consumers don't
- Ingredient listing, nutrient content labeling
- Factual basis for health and nutrient content claims
- Despite disclosures, diets have shown little improvement and obesity continues to increase
- Information plays a small role, but the seemingly minor impact is somewhat puzzling

Attenuating factors

- Complexity / processing costs
- Overload: claims, number of products, conflicting nutritional messages
- Producer strategy – altering prices, shrouding
- Behavioral: better informed, but effects trumped by self-control and other cognitive issues
- Effects limited to small groups – e.g., diabetics, hypertensive, high education level.
- People use information but reallocate across products and over time with little net effect on outcomes

Study Objectives

- Processing costs
  - Do shelf labels reduce information costs and thus affect product choice
  - Effect of single versus multiple nutrient info
- Credibility – FDA approved standards
- Quality-taste tradeoff (low fat label) – how consumers react to disclosure may differ from the effect predicted by nutritional quality alone

Design

- 5 treatments (labels): low calorie, low fat, low fat (FDA), low calorie/low fat, low calorie/low fat/no trans fat
- Why focus so much on low-fat label?
  - This is a 1990s issue when lot of low-fat labeled products were introduced
  - Total fat content receiving less attention compared with type of fats and total calories
  - Well-researched and shown to result in unintended effects

Low-fat label

- e.g. low-fat labels produced lower anticipated hedonic ratings and high-fat labels produced higher ratings
- After consumption, soups labeled high-fat were rated as more pleasant and creamier than those labeled low-fat, *independent of actual fat content* (Yeomans et al., 2001)
- ERS report: after NLEA, number of new reduced/low-fat products jumped reaching 2,076 in 1996, and then tanked to 481 in 1999

Methods & Data

- But low-fat effect could provide validation
- Strong experimental setup
  - Randomly assigned treatment and control stores with control for key characteristics
  - Stores within same price division
  - Triple difference: treated stores, treatment, ai week and treated products
- Experiment focuses on a single product: microwave popcorn
  - “Our treated product category is characterized by relatively low volume sales and high fluctuations in sales across weeks” p.18.
- Robustness checks

Results

- No overall shelf label effect
- When specific treatments are examined, low-fat label (with FDA reference) reduced sales
  - Are all treatments applied in all treated stores?
  - Does looking at individual treatments lead to an imbalance in treated stores and products versus control stores and products?
- Low-calorie shelf label did not affect sales
  - But manufacturer low-calorie claim had positive sales effect
  - Is it because consumer had no way of knowing the credibility of the claim?
- Additional results when data drilled down, but is this ok in an experimental setup?
- Treatment effect on untreated products – sales of unlabeled products increased when compared with low fat, FDA reference label. Neat result showing consumer switch!

Take away

- Strong experimental study
- Consumers use low-fat label in an unexpected way – they reduce purchase of products with low-fat label. Shows the importance of market data in evaluating any proposal
- Consumers attach credibility to Govt. standards
- Manufacturer/seller strategies work and can dilute the effects of standardized disclosures (low-calorie claims, pink ribbon)