Do Firms “Misrepresent” Nutrients Based on Label Rounding Rules?

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Do Firms “Misrepresent” Nutrients Based on Label Rounding Rules?
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Motivation

Diet is linked to many common health concerns in the United States. - Obesity - Heart Disease - Type 2 Diabetes

The Nutrition Labeling and Education Act requires nutrition facts panel (NFP) labels on most food products. The purpose of the NFP is to:
- reduce consumer confusion about food labels
- help consumers make healthy food choices
- provide incentives for firms to increase the nutritional quality of food (Wilkening 1992)

Incentive to Round

Consumers select a product to maximize utility by considering the attributes of the product and their budget constraint. Based on Gorman (1956) and Lancaster (1966) we consider nutrients as product attributes. Nutritional attributes are credibility goods, which consumers cannot easily verify. Thus, consumers may use NFPs and health claims to determine perceived nutritional attributes. Consumer demand depends on the perceived nutritional attribute mostly based on producer provided information. Profit maximizing firms will formulate products to appeal to consumer preferences. The FDA allows firms to round the nutrient information on NFPs such that the source of fiber

Rounding firms choose to round up or down, and also how much to round. We use a Probit model to analyze the likelihood of rounding and OLS to analyze the magnitude of rounding.

Prior literature supports the claim that consumers use NFPs when making purchase decisions (Vanjiam 2008, Mandal 2010, Cook, Burton & Howlett 2011). If NFPs influence consumer decisions, numerical rounding nutrient content can impact the healthfulness of a consumer’s diet without their knowledge. The NFP rounding rules may increase the likelihood of diet-related health concerns for label reading consumers.

Research Question

How do firms formulate the nutrient content of ready-to-eat cereals to maximize profits when presenting nutrient content on nutrition facts panels given the FDA nutrition facts panel rounding rules?

Data

- These exact nutrient values are matched to the rounded nutrient values collected from cereal boxes in store and online.
- We focus on Calories, Total Fat, Saturated Fat, Carbohydrates, Fiber, Sugar & Protein
- Health claims are collected from cereal boxes in store and online.
- Target markets and the product health rating system are found at cerealfacts.org

How do the actual cereal nutrients get labeled with the FDA rounding guidelines?

- 2 peaks where rounding up occurs more than rounding down is where fiber will be presented as 1g rather than 0g, 3g rather than 2g, and 5g rather than 4g
- 3g and 5g correspond to label claims of a “good source of fiber” and a “great source of fiber”

Findings and Implications

- We often observe “healthy” nutrients rounded up and “unhealthy” nutrients rounded down.
- Health claims, nutrient tradeoffs, and target markets influence the likelihood and magnitude of rounding.
- Rounding differs based on the health rating of a cereal
- If consumers use labels to purchase specific nutrient attributes the rounding rules may have consequences and healthy ratings may be misleading.

References


