Value of Parsimonious Nutritional Information in a Framed Field Experiment

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Parsimonious information - After women between the ages of 18 and 76

OBJECTIVES

• Determine how product choice is affected by price, taste, and perceived healthfulness and the provision of health information
• Determine the value of health information

RESULTS

<table>
<thead>
<tr>
<th>Variable</th>
<th>Estimate</th>
<th>After Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Healthy vs. neutral</td>
<td>0.625€/kg (0.433)</td>
<td>1.442€/kg (0.444)</td>
</tr>
<tr>
<td>Unhealthy vs. neutral</td>
<td>-5.000€/kg (2.642)</td>
<td>-14.243€/kg (3.881)</td>
</tr>
<tr>
<td>Healthy vs. unhealthy</td>
<td>5.624€/kg (2.618)</td>
<td>15.685€/kg (4.084)</td>
</tr>
<tr>
<td>Taste tradeoff per kg</td>
<td>Before information</td>
<td>After information</td>
</tr>
<tr>
<td>Healthy vs. neutral</td>
<td>0.144 taste units (0.095)</td>
<td>0.332 taste units (0.077)</td>
</tr>
<tr>
<td>Unhealthy vs. neutral</td>
<td>-1.152 taste units (0.568)</td>
<td>-3.282 taste units (0.651)</td>
</tr>
<tr>
<td>Healthy vs. Unhealthy</td>
<td>1.296 taste units (0.500)</td>
<td>3.615 taste units (0.651)</td>
</tr>
</tbody>
</table>

ECONOMETRICS METHODS

A RUM, MN1 is estimated where the ith individual’s utility of choosing the kth food item in treatment t, \( V_{ikt} \), is

\[ V_{ikt} = \beta_1 \text{cereal}_{ik} + \beta_2 \text{dairy}_{ik} + \beta_3 \text{fruit}_{ik} + \beta_4 \text{meat}_{ik} + \beta_5 \text{mixed}_{ik} + \beta_6 \text{snack}_{ik} + \beta_7 \text{veggie}_{ik} + \beta_8 \text{taste}_{ik} + \beta_9 \text{Healthy_before}_{ikt} + \beta_{10} \text{Unhealthy_before}_{ikt} + \beta_{11} \text{Healthy_after}_{ikt} + \beta_{12} \text{Unhealthy_after}_{ikt} + \beta_{13} \text{price}_{ik} \]

where \( \text{cereal}_{ik}, \text{dairy}_{ik}, \text{fruit}_{ik}, \text{meat}_{ik}, \text{mixed}_{ik}, \text{snack}_{ik}, \text{veggie}_{ik}, \text{taste}_{ik}, \text{Healthy_before}_{ikt}, \text{Unhealthy_before}_{ikt}, \text{Healthy_after}_{ikt}, \text{Unhealthy_after}_{ikt} \), and \( \text{price}_{ik} \) are the binary variables indicating food’s type, whether the ith individual perceives food \( k \) as healthy in treatment \( t \), and the price of food \( k \). \( \beta_1, \beta_2, \ldots, \beta_{13} \) are coefficients (marginal utilities) for each explanatory variable.

The value of information, \( CV \), is

\[ CV = \frac{-1}{\beta_{13}} \left[ \theta \left( \sum_{k=1}^{K} \sum_{t=1}^{T} \sum_{i=1}^{n} \exp(V_{ikt}) \right) - \sum_{k=1}^{K} \sum_{t=1}^{T} \sum_{i=1}^{n} \exp(V_{ikt}) \right] \]

where \( \theta \) is a coefficient on price, \( V_{ikt} \) is the ith individual’s perception of the kth food item’s health in treatment \( t \), and \( \exp(V_{ikt}) \) is the true kth food item’s health before receiving information in treatment \( t \). \( \exp(V_{ikt}) \) is the probability of choosing the kth food item based on pre-disposition information perception.

INTRODUCTION

Nutritional labels are a key federal policy used to assist consumers in food choice, but there remain questions about the economic value of labels.

• Need an approach that can estimate an explicit monetary value for nutritional that is aggregated over a whole day’s choices
• Utilize an experimental approach based on real food and real money as opposed to hypothetical statements about label use
• Based on simple information based on nutritional indices

DATA

• Framed field experiment in Grenoble France
• 129 women between the ages of 18 and 76
• Chooses of foods to purchase for breakfast, lunch, snack and dinner for a given day (repeated three times)

CONCLUSION

• Simple nutrient index information increases WTP for healthy food and decrease WTP for unhealthy food.
• There is a type of loss aversion in that WTP for healthy vs. neutral food is lower than is WTP for neutral vs. unhealthy food, and this loss aversion increases with information.
• Negative information is more influential than positive information.
• The value of the type of health information explored in this study is €0.98/family/day.