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Preferences for Eco-labels in Seafood and Underutilized Fish

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Preferences for Eco-labels in Seafood and Underutilized Fish
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Student Collaborators: Liz McCormick ’15, Gaby Carpenter ’16, Siena Schickler

1. Introduction

Problem
The alarming decline of the global fishing economy has led to an increased recognition for the need to relieve pressure from the few commercially marketed and heavily overfished stocks, while regaining economic stability for struggling fishing communities.

Solution
Shifting consumer demand toward seafood that is sustainably and locally harvested improves the wellbeing of fish stocks and coastal communities. Lack of transparency in the seafood supply chain is a severe impediment to consumer-driven solutions.

A Solution
Proposed by fishery organizations is to use a variety of "eco-labels" that help describe the types of sustainability of different seafood choices.

Types of Sustainability

<table>
<thead>
<tr>
<th>Ecological Sustainable</th>
<th>Local</th>
<th>Social Sustainable</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Able to maintain the fish population at a certain level</em></td>
<td><em>Gulf of Maine</em></td>
<td><em>Fisherman participation in decision-making</em></td>
</tr>
<tr>
<td><em>Minimal Environmental Impact</em></td>
<td><em>100 miles from the survey location</em></td>
<td><em>Economics and community development</em></td>
</tr>
<tr>
<td><em>Equitable profit and benefits for fishing community</em></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2. The Research Questions

1. What is consumers' willingness to pay for sustainable seafood?
2. Are consumers more concerned with sustainability of target stocks or the livelihoods of local fishermen?
3. To what degree does official certification matter? Are consumers willing to pay more for seafood that are certified by an organization?

3. Methods

Choice Experiment Survey
- Survey was distributed to visitors and residents of coastal Maine in the summer and fall of 2014.
- Two sets of short questions, eight choice questions, and a set of demographic questions.
- Each choice question asked participants to choose between two restaurants based on sustainability labels.

4. Results

Numeric Value for Willingness to Pay

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Conditional Logit</th>
<th>Mixed Logit</th>
<th>Mixed Logit Familiarity Interaction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost</td>
<td>4.09E+4 (14.01)</td>
<td>1.05E+4 (14.95)</td>
<td>3.50E+4 (15.01)</td>
</tr>
<tr>
<td>Eco Sustainable</td>
<td>3.85E+3 (13.46)</td>
<td>1.04E+4 (13.47)</td>
<td>6.15E+4 (13.62)</td>
</tr>
<tr>
<td>MSC Certified</td>
<td>3.50E+4 (13.00)</td>
<td>8.05E+4 (12.96)</td>
<td>1.05E+4 (13.04)</td>
</tr>
<tr>
<td>Local</td>
<td>2.85E+4 (12.62)</td>
<td>6.05E+4 (12.63)</td>
<td>8.50E+4 (12.74)</td>
</tr>
<tr>
<td>Gulf of Maine</td>
<td>2.15E+4 (11.95)</td>
<td>4.50E+4 (11.96)</td>
<td>6.00E+4 (12.06)</td>
</tr>
<tr>
<td>Promotes Community Development</td>
<td>1.50E+4 (11.55)</td>
<td>3.00E+4 (11.56)</td>
<td>4.50E+4 (11.66)</td>
</tr>
<tr>
<td>Fairtrade</td>
<td>1.15E+4 (11.00)</td>
<td>2.30E+4 (11.01)</td>
<td>3.50E+4 (11.12)</td>
</tr>
</tbody>
</table>

V_{\text{est}} = \beta_1 x_{\text{Ecological Sustainable}} + \beta_2 x_{\text{MSC}} + \beta_3 x_{\text{Local}} + \beta_4 x_{\text{Gulf of Maine}} + \beta_5 x_{\text{Promotes Community Development}} + \beta_6 x_{\text{Fairtrade}} + \beta_7 x_{\text{Local}} + \beta_8 x_{\text{Gulf of Maine}} + \epsilon

5. Conclusions

- For each attribute, respondents are willing to pay more for certified label than its ambiguous counterpart.
- People have a good understanding ecological sustainable and community development have a higher willingness to pay for these labels. That is, awareness of sustainability increase one's willingness to pay.
- Respondents with household income higher than $50,000 has higher willingness to pay for sustainable seafood.
- Other factors increase willingness to pay: being a female or being a frequent fisherman's market visitor.
- Fishing industry should issue a label for socially sustainable due to the statistical significance for this attribute.

6. Acknowledgments

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