Geographical Indications in the Olive Oil Market: does Social Identity matter?

Panzone Luca 1,2; Di Vita Giuseppe 3; Borla Stefania 2; D’Amico Mario 3

1: Sustainable Consumption Institute, University of Manchester
2: Economics, School of Social Science, University of Manchester
3: Department of Agri-food and Environmental Management, University of Catania

Existing literature on GIs mostly focuses on their informational role (Caswell & Padberg 1992; Caswell & Mojduszka, 1996; van der Lans et al., 2001; Loureiro & Umberger, 2007; Costanigro et al., 2010).

This approach neglects the role of social identity in consumer choices (Akerlof & Kranton, 2000).

Individuals share a need for social differentiation and social inclusion (Leonardelli et al., 2010) that has not been incorporated.

Then, consumer use choices to signal their social identity.

In the market, agents are either:

- **Insiders**, who belong to the group: they derive utility from being associated with their group, (Chen & Li, 2009; Klor & Shayo, 2010); and signal their group membership by making choices typical of their group (Leonardelli et al., 2010)
- **Outsiders**, those who are out of the group.

**Economic model**

- There are 2 locations. In each location, consumers can choose between 1 unit of good $z_s$ or 1 unit of good $z_s$
- Goods $z_s$ and $z_s$ have the same intrinsic characteristics
- There are two types of consumers $\theta(g)$, $g=I, O$
- Insiders are such that $z_s$ is produced in location $k=I$; good $z_s$ is produced in location $k \neq g$
- Insider $i=1..n_I$ gains a higher utility from choosing $z_s$:

$$U_{II}(z_s) = u_{II}(z_s) + v_{II}(\theta(g) = \theta(I) | z_s = I) \cdot \pi^I_{II}(\theta(g) = \theta(I) | z_s = I)$$

- Outsider $i=1..n_O$ is indifferent between $z_s$ and $z_s$

$$U_{O}(z_k) = u_{O}(z_k) \quad k = s, s$$

- Hence insiders have a higher WTP for good $z_s$

**Data**

- Contingent ranking survey on Extra-virgin olive oil consumption
- November-December 2009.
- Face-to-face interviews – 3 samples:
  - 460 Sicily (Palermo & Catania) (Auchan & Iperspar)
  - 178 Rome (PAM)
  - 249 Milan (Esselunga)

**Choice card:** 9 products, with:
- Price
- Region of Origin
- Organic label
- PDO

Rank from 1 (least preferred) to 9 (most preferred).
Econometric model

- CONTINGENT RANKING SURVEY, linear utility function:
  \[ U_{ij} = \alpha_0 \cdot X_{ij} + \alpha_1 \cdot P_j + \alpha_2 \cdot \text{DOP}_j + \alpha_3 \cdot \text{REG}_j + \alpha_4 \cdot (\text{DOP}_j \cdot \text{REG}_j) + \alpha_5 \cdot P_j \cdot \ln(\text{inc}_j) + \alpha_6 \cdot P_j \cdot \ln(\text{age}_j) + \epsilon_{ij} \]

- The probability of a certain rank is
  \[ P(U_n > U_{i2} > ... > U_{ij}) = \prod_j \left[ \frac{\exp(\alpha \cdot X_{ij})}{\sum \exp(\alpha \cdot X_{uj})} \right] \]

- WTP for Origin is then be calculated as (Foster & Mourato, 2000):
  \[ \frac{\partial P_j}{\partial \text{REG}_j} = \frac{\partial U_{ij}/\partial \text{REG}_j}{\partial U_{ij}/\partial P_j} = \frac{\alpha_i + \alpha_4 \cdot \text{DOP}_j}{\alpha_i + \alpha_6 \cdot \ln(\text{inc}_j) + \alpha_5 \cdot \ln(\text{age}_j)} \]

- Specifically, insiders are expected to have a higher marginal utility (and WTP) for regional origin compared to outsiders.

Results: WTP

<table>
<thead>
<tr>
<th>Sicily</th>
<th>Milan</th>
<th>Rome</th>
</tr>
</thead>
<tbody>
<tr>
<td>Price</td>
<td>0.6725***</td>
<td>3.3648***</td>
</tr>
<tr>
<td>Apulia</td>
<td>-1.3046***</td>
<td>-2.4132***</td>
</tr>
<tr>
<td>Sicily</td>
<td>-0.5571***</td>
<td>-2.0324***</td>
</tr>
<tr>
<td>PDO</td>
<td>-1.3192***</td>
<td>3.4113***</td>
</tr>
<tr>
<td>Sicily</td>
<td>0.2690</td>
<td>0.4530</td>
</tr>
<tr>
<td>Sicily*PDO</td>
<td>-1.3266***</td>
<td>3.3882***</td>
</tr>
<tr>
<td>Organic</td>
<td>-1.0023***</td>
<td>0.3995**</td>
</tr>
<tr>
<td>PDO</td>
<td>-0.0825</td>
<td>-2.8955***</td>
</tr>
<tr>
<td>Price*ln(Income)</td>
<td>0.2014</td>
<td>0.3487</td>
</tr>
<tr>
<td>Price*ln(Age)</td>
<td>0.0225</td>
<td>0.0477</td>
</tr>
<tr>
<td>Price*ln(PureG)</td>
<td>0.1185***</td>
<td>-0.4578***</td>
</tr>
<tr>
<td>Price*ln(PureG)</td>
<td>-0.0459</td>
<td>0.0244</td>
</tr>
<tr>
<td>Respondents</td>
<td>460</td>
<td>178</td>
</tr>
<tr>
<td>Log-likelihood</td>
<td>-5164.915</td>
<td>-2045.063</td>
</tr>
<tr>
<td>Chi²</td>
<td>1433.988</td>
<td>464.551</td>
</tr>
</tbody>
</table>

Implications

- Labels can be endogenous on choices, which are intertwined with the personality of respondents.
  - GIIs influence choices beyond pure taste preferences, activating in insiders a sense of identification with the product.
  - GIIs (and labels) are not neutral information:
    - Pure origin information is important to insiders;
    - Certified origin label is crucial for outsiders.
  - Minimum quality standards have no distortive effect on markets
    - Results indicate welfare losses are likely to be minimal because outsiders have a highly negative WTP for an uncertified GI.
  - Regulated GIIs (such as PDO) are partially extrinsic attributes, i.e. are partially unrelated to the performance of the good.
  - GIIs activate a set of emotions (social identity) in the mind of respondent partially unrelated to taste preferences.
Conclusions

• **Insiders** receive positive utility from their region of origin.
• **Insiders** identify with the product from their region, and are willing to pay more for it.
• However, the interaction between region of origin and PDO label decreases utility of **insiders**:  
  • Insiders consider outsiders unsuitable to discuss matters regarding the “inside” group and the understanding of what an “insider” is or should be (Hornsey et al., 2002).
• On the other hand, **outsiders** only benefit from the synergy between a product’s origin and its certified label.

Thank you very much for your attention