ALTERNATIVE FOOD NETWORKS AND LOCAL MARKETS

Determinants of consumers’ choices between conventional and farmers’ stands

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Motivations and research questions

• Most research on the Alternative Food Networks (AFNs) focuses on the **determinants of the choice**:
  - farmers’ choice of the marketing channel
  - consumers’ choice of where to purchase

• The economic literature dealing with **consumers’ preferences** generally focuses on the factors influencing the choice of purchasing from **farmers’ markets** (FMs)
Motivations and research questions

A different point of view

The possibility to find both conventional stands and farmers’ stands selling fruit and vegetables in the same district market

The objective

To analyse the behavioural characteristics of local market consumers choosing to purchase from farm stands and the determinants of their choice
Theoretical approach

• We hypothesize that the choice of the vendor is influenced by:
  ✓ **socio-economic characteristics** of consumers (**P**)  
  ✓ **some general attitudes** towards the purchase of food (**A**): quality, price, convenience, trust in the vendor

• **Intrinsic characteristics** of the good (**C**) do not influence utility differently for either vendor, while attitudes and personal characteristics do

Consumers will choose the farmer’s stall if:

\[ U[C, V_1(A,P)] - U[C, V_2(A,P)] > 0 \]

Frame under which the good is sold:  
1 farmer, 2 conventional vendor
Assuming a linear utility function for good \( g \) with a random component \((\varepsilon)\), the utility for the purchase of good \( g \) is then:

\[
U_1 = \alpha_0 + \alpha_1 C + \alpha_{21} A + \alpha_{31} P + \varepsilon_1 \quad [1]
\]

\[
U_2 = \alpha_0 + \alpha_1 C + \alpha_{22} A + \alpha_{32} P + \varepsilon_2 \quad [2]
\]

Calling \( F \) the dichotomous indicator of the choice to buy from the farmer (equal to 1 if the consumer buys from him/her, else 0), we have:

\[
\text{Prob}(F=1) = \text{prob}(U_1 - U_2 > 0) = \text{prob}(\alpha_0 + \gamma_1 A + \gamma_2 P + \mu > 0) [3]
\]

Under the assumption that \( \mu \) is distributed normally, the model is:

\[
\text{Prob}(F=1) = F(\alpha_0 + \gamma_1 A + \gamma_2 P) \quad [4]
\]

where \( F \) is the standard normal c.d.f.
Data and method

In-person survey data collected in open-air markets in Torino, Cuneo, Alessandria and Asti, four cities in Piedmont Region (Italy) where farmers sell their products.
Data and method

• In Torino the sample was drawn with a two-stage random sampling methodology (1,194 consumers sampled in 13 district markets):
  ✓ markets were chosen randomly in strata defined on the basis of market size
  ✓ In each market, consumers to be interviewed were also chosen at random

• In the smaller towns the survey was conducted in the main, or only, market-place in town where both farmers and conventional vendors sell their products (174 interviews)
Data and method

• The determinants of the choice to buy from farm stands were analysed with a **probit model**

• After dropping questionnaires with missing information, a final sub-sample of **1,138 questionnaires** was employed to run the model

• **Dependent variable**: a dummy variable equal to 1 for consumers buying fruits and vegetables from farmers’ stands (0 otherwise)

• **Explanatory variables** concerns the personal characteristics of the respondents, their attitudes and the role of markets and areas with distinctive characteristics
Data and method

• **Consumers’ attitudes** (surveyed by using multiple answer questions) entered the model after being recoded into broader categories:

  ✓ the **criteria for the choice of the district market** were grouped into three main motivations: convenience, price and quality

  ✓ the **criteria for the choice of the market stands** were clustered into four categories: convenience, price, quality and trust in the vendor
Data and method

Consumers’ attitudes (surveyed by using multiple answer questions) entered the model after being recoded into broader categories

**CRITERIA FOR THE CHOICE OF THE DISTRICT MARKET**

- **CONVENIENCE**
  - “Closeness of home”
  - “Closeness of workplace, school, or the place where relatives live”
  - “Location on the way between workplace and home”

- **PRICE**
  - “Reasonable prices”

- **QUALITY**
  - “Products quality”
  - “Wide choice”
  - “Pleasant ambience”

**CRITERIA FOR THE CHOICE OF THE MARKET STANDS**

- **CONVENIENCE**
  - “Location of the stalls within the district market”

- **PRICE**
  - “Reasonable prices”
  - “Quality/price ratio”

- **QUALITY**
  - “Products quality”
  - “Freshness of goods”
  - “Supply of local products”
  - “Region of products provenance”

- **TRUST IN THE VENDOR**
  - “Personal acquaintance with the vendor”
Data and method

• Besides, two explanatory variables were added in order to highlight the possible role of markets and areas with distinctive characteristics:
  ✓ Porta Palazzo, the largest and more traditional open-air market in Torino (large number of farmers in a specific area of the market)
  ✓ Market location in a provincial town (Cuneo, Alessandria or Asti)
## Results

(Log-likelihood = -594.727; Chi-squared = 170.107; d.f. = 25; N. Obs. = 1,138)

<table>
<thead>
<tr>
<th>Variables</th>
<th>Coeff.</th>
<th>Std. Err.</th>
<th>Marginal effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>-1.498***</td>
<td>0.373</td>
<td>0.0336</td>
</tr>
<tr>
<td>District market – convenience (yes = 1)</td>
<td>0.104</td>
<td>0.098</td>
<td>0.0336</td>
</tr>
<tr>
<td>District market – price (yes = 1)</td>
<td>-0.047</td>
<td>0.111</td>
<td>-0.0152</td>
</tr>
<tr>
<td>District market – quality (yes = 1)</td>
<td>0.301***</td>
<td>0.091</td>
<td>0.0945</td>
</tr>
<tr>
<td>Market stand – convenience (yes = 1)</td>
<td>0.083</td>
<td>0.390</td>
<td>0.0259</td>
</tr>
<tr>
<td>Market stand – price (yes = 1)</td>
<td>-0.035</td>
<td>0.093</td>
<td>-0.0113</td>
</tr>
<tr>
<td>Market stand – quality (yes = 1)</td>
<td>0.630***</td>
<td>0.095</td>
<td>0.2154</td>
</tr>
<tr>
<td>Market stand – trust (yes = 1)</td>
<td>0.255**</td>
<td>0.101</td>
<td>0.0786</td>
</tr>
<tr>
<td>Porta Palazzo (yes = 1)</td>
<td>0.793***</td>
<td>0.153</td>
<td>0.2060</td>
</tr>
<tr>
<td>Provincial town (yes = 1)</td>
<td>0.013</td>
<td>0.138</td>
<td>0.0043</td>
</tr>
<tr>
<td>Gender (male = 1)</td>
<td>0.154*</td>
<td>0.092</td>
<td>0.0489</td>
</tr>
<tr>
<td>Age (years)</td>
<td>0.007</td>
<td>0.004</td>
<td>0.0022</td>
</tr>
<tr>
<td>Education (years of study)</td>
<td>0.033**</td>
<td>0.013</td>
<td>0.0106</td>
</tr>
<tr>
<td>Household size (number of other family members)</td>
<td>-0.002</td>
<td>0.005</td>
<td>-0.0007</td>
</tr>
<tr>
<td>Children under fourteen (number)</td>
<td>0.000</td>
<td>0.000</td>
<td>-0.0000</td>
</tr>
<tr>
<td>Residence (years of residence)</td>
<td>-0.002</td>
<td>0.003</td>
<td>-0.0006</td>
</tr>
<tr>
<td>Household member in charge of buying fruits/vegetables (yes = 1)</td>
<td>0.662***</td>
<td>0.154</td>
<td>0.2418</td>
</tr>
<tr>
<td>High-skill job (yes = 1)</td>
<td>-0.257</td>
<td>0.200</td>
<td>-0.0877</td>
</tr>
<tr>
<td>Middle-skill job (yes = 1)</td>
<td>-0.019</td>
<td>0.130</td>
<td>-0.0062</td>
</tr>
<tr>
<td>Low-skill job (yes = 1)</td>
<td>-0.549***</td>
<td>0.176</td>
<td>-0.1980</td>
</tr>
<tr>
<td>High-pensioner (yes = 1)</td>
<td>-0.632*</td>
<td>0.379</td>
<td>-0.2335</td>
</tr>
<tr>
<td>Middle-pensioner (yes = 1)</td>
<td>-0.272*</td>
<td>0.160</td>
<td>-0.0917</td>
</tr>
<tr>
<td>Low-pensioner (yes = 1)</td>
<td>-0.180</td>
<td>0.176</td>
<td>-0.0602</td>
</tr>
<tr>
<td>Net household income 1,200-2,000 euro/month (yes = 1)</td>
<td>0.109</td>
<td>0.107</td>
<td>0.0347</td>
</tr>
<tr>
<td>Net household income 2,000-3,000 euro/month (yes = 1)</td>
<td>-0.162</td>
<td>0.127</td>
<td>-0.0533</td>
</tr>
<tr>
<td>Net household income &gt; 3,000 euro/month (yes = 1)</td>
<td>-0.242</td>
<td>0.167</td>
<td>-0.0824</td>
</tr>
</tbody>
</table>
Results

Main determinants of the choice to purchase from farmers:

**QUALITY** (highly significant $P \leq 0.01$)

- If the *choice of the local market* is based on *quality* → the probability of buying from farmers is by **9.5% higher**

- If the *choice for the market stand* is based on *quality* → consumers are even **21.5% more likely** to buy from farmers
Results

Main determinants of the choice to purchase from farmers

TRUST IN THE VENDOR (P ≤ 0.05)

• If the trust in the vendor plays a role in consumers’ choice for the market stand → the probability of buying from farmers increases by almost 8%

Consumers influenced by prices or convenience do not have a specific preference for farmers’ stands (these variables are not statistically significant).
Results

Main determinants of the choice to purchase from farmers:

PORTA PALAZZO (highly significant $P \leq 0.01$):

• people shopping in Porta Palazzo are about **20.6% more likely** to purchase from farmers

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Living in a **provincial town** and the **closeness of rural environment** have no significant effect on the preference for farmers’ stands
Results

Main determinants of the choice to purchase from farmers

PERSONAL CHARACTERISTICS

- Being in charge of purchasing fruit and vegetable → +24.2%
- **Education**: every additional schooling year → +1.1%
- **Gender** (weakly significant): males → +5%
Results

Unclear and/or weakly significant determinants of the choice to purchase from farmers

PERSONAL CHARACTERISTICS

• job skill level
  – low skill job (significant and negative) → -19.8%
  – middle- and high skill jobs (not significant and negative)

• Similar outcomes (negative and not, or weakly, significant parameters) were found for low-, middle- and high-pensioners

• Income: none of the income brackets is statistically significant
Conclusions

• The quest for **quality** and, secondly, the **trust in the vendor** play a fundamental role in the choice of the purchase channel

• Unlike quality, **prices** and **convenience** don’t seem to affect consumers’ preferences towards the farmer-to-consumer channel

• **Porta Palazzo market** is a separate case

• Personal characteristics seem to be less important, except for being the household member in charge of buying fruits and vegetables and education

• Quite unexpectedly, **income** and **type of occupation** do not seem to have relevant impacts on consumers’ choice
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THANKS FOR YOUR ATTENTION!