The Effect of Delimited Geographical Indication Areas on Retail Prices: A European Study

Gero Laurenz Höhn, Martijn Huysmans and Christophe Crombez

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Worldwide Perspectives on Geographical Indications

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Terroir of EU GIs

The delimitation of the GI area stands at the heart of every specification.
Rationale & state-of-the-art

Theoretical framework
(Deconinck & Swinnen, 2021; Deconinck, Huysmans & Swinnen, 2015; Landi & Stefani, 2015)

- Larger GI areas grant more producers rights
- Larger GI areas have less specific terroir

→ Area size may affect prices through quantity & quality
Objective

- **GI wines** from a **larger area** tend to be of **lower quality**
  (López-Bayón et al., 2020)

- But what about **prices**?
  → **Lack** of empirical **evidence**

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**Do GIs with a larger area have lower prices?**

**Hypothesis:** *Larger GI areas are associated with lower prices*
**Focus product**

**European ham**

- Comparable products
- Differing areas
- Established GIs
- Pan-European
- PDOs and PGIs

- **Prosciutto di Parma**
- **Schwarzwälder Schinken**
- **Jambon d’Ardenne**
- **Jambon de Bayonne**
- **Jabugo**
Focus product

- **GI hams** tend to realize **price premiums**
  (Deselnicu *et al.*, 2013; Garavaglia & Mariani, 2017; Leufkens, 2018; AND-International, 2019)

→ **Our contribution:**

- Including of **22 GI hams** from 9 countries
- Controlling for **ham-specific variables** like maturation time
- Using **actual retail price** data
- Coding **new data** of **GI areas** in km²
Focus markets

- **11 countries**
  - Origin of GI ham
  - Major pig producer (Netherlands)
  - Major ham importer (Ireland)
  - € currency

- **36 online stores**
  - Supermarkets with physical stores
  - No specialty shops
  - House delivery in capital’s center
Data collection

Exemplary coding:

→ **Price per 100gr:** 6.24 €
→ **Package size:** 80 grams
→ **National Brand:** No = 0
→ **GI label:** PDO
→ **GI area:** 35 km²
→ **Maturation time:** 18 months
→ **Special pig breed:** No = 0
→ **Organic:** No = 0
→ …
Data collection

- GI area normally defined by **administrative borders**
  → LAU (municipality) or NUTS (region, province) level:

**Prosciutto di San Daniele (PDO):**

![Map of Prosciutto di San Daniele (PDO)](Qualigeo, 2020)

**Jambon d’Auvergne (PGI):**

![Map of Jambon d’Auvergne (PGI)](Consortium des Salaisons d’Auvergne, 2021)
Data collection

- In total, **22 GI hams** from 9 countries included
- **Large differences** among GIs and within countries
- PDOs tend to be **smaller**

<table>
<thead>
<tr>
<th>Name</th>
<th>Certification</th>
<th>Country</th>
<th>Area in km²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prosciutto di Carpegna</td>
<td>PDO</td>
<td>Italy</td>
<td>29</td>
</tr>
<tr>
<td>Prosciutto di San Daniele</td>
<td>PDO</td>
<td>Italy</td>
<td>35</td>
</tr>
<tr>
<td>Kraški Pršut</td>
<td>PGI</td>
<td>Slovenia</td>
<td>429</td>
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<tr>
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<tr>
<td>Jambon d’Ardenne</td>
<td>PGI</td>
<td>Belgium</td>
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<tr>
<td>Schwarzwälder Schinken</td>
<td>PGI</td>
<td>Germany</td>
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<td>Tiroler Speck</td>
<td>PGI</td>
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<tr>
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<td>France</td>
<td>23,497</td>
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<tr>
<td>...</td>
<td>...</td>
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</tr>
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</table>

In total, **22 GI hams** from 9 countries included.

- Large differences among GIs and within countries.
- PDOs tend to be smaller.
Results

Full-sample regressions: GIs & non-GIs

- PDOs associated with higher prices
  - 67% premium compared to non-GI reference
  - Controlling for national brands, organic, package size, maturation time & special pig breeds

<table>
<thead>
<tr>
<th>Regressor</th>
<th>(1)</th>
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<tbody>
<tr>
<td>GI label (ref. non-GI)</td>
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<tr>
<td>PDO</td>
<td>1.65***</td>
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<tr>
<td></td>
<td>(0.55)</td>
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<tr>
<td>PGI</td>
<td>-0.08</td>
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<tr>
<td></td>
<td>(0.14)</td>
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<tr>
<td>Constant</td>
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<tr>
<td></td>
<td>(0.25)</td>
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<tr>
<td>Control variables</td>
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</tr>
<tr>
<td>Supermarket FE</td>
<td>YES</td>
</tr>
</tbody>
</table>

Summary statistics

<p>| | |</p>
<table>
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<tbody>
<tr>
<td>N</td>
<td>768</td>
</tr>
<tr>
<td>Adjusted R²</td>
<td>0.64</td>
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</tbody>
</table>

Notes: *p < 0.1, **p < 0.05 and *** p < 0.01. Robust standard errors in parentheses.
### Results

Subsample regressions: PDOs and PGIs only

- **Larger areas** associated with **lower prices**
  - 1 SD increase: price expected to fall by about 50 ct.
  - No difference between PDOs and PGIs
  - Checks with Italian GIs controlling for quantity

<table>
<thead>
<tr>
<th>Regressor</th>
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<tbody>
<tr>
<td>Lnarea</td>
<td>-0.25***</td>
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<tr>
<td></td>
<td>(0.07)</td>
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<tr>
<td>PDO</td>
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<td></td>
<td>(0.55)</td>
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<td>Constant</td>
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<td></td>
<td>(1.13)</td>
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<tr>
<td>Control variables</td>
<td>YES</td>
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<tr>
<td>Supermarket FE</td>
<td>YES</td>
</tr>
</tbody>
</table>

Summary statistics

- N: 187
- Adjusted R²: 0.83

**Notes:** *p < 0.1, **p < 0.05 and *** p < 0.01.
Clustered standard errors in parentheses.
Results

- Prosciutto di Carpegna
- Jambon d’Auvergne
Summary

- A denominated geographical area is the essence of every GI
- Lack of empirical evidence regarding area effect on prices

We find that larger GI areas are associated with lower prices

→ Focus on EU GI ham: multi-GI and -country analysis
→ Product-specific controls are influential and moderate label premiums
→ GI delimitation must be well-founded

- Larger areas may still positively affect turnover & profits through higher sales
Thank you for your attention!

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