

BATModel

better agri-food trade modelling for policy analysis

Geographical indications in BATModel

Karine Latouche
INRAE, SMART



THIS PROJECT HAS RECEIVED FUNDING FROM
THE EUROPEAN UNION' HORIZON 2020 RESEARCH
AND INNOVATION PROGRAMME
UNDER GRANT AGREEMENT N. 861932

Funded by the European Union. Views and opinions here expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Commission. Neither the European Union nor the European Commission can be held responsible for them.

Why do we work on GIs in BATModel ?



Geographical indications

A European label certifying :

- the characteristic of a product
- that it was produced/processed/prepared in a specific region the use of a recognized know-how

Part of the European quality package

regulation No.2012/1151: quality schemes for agricultural products and foodstuffs

Two quality schemes : PDO, PGI



Geographical indications: objectives

- To provide information to **consumers** about product's attributes by preventing misuses and counterfeiting
- To protect **small producers** from the entry of low quality competitors and the decline of reputation
- To enhance **competitiveness** within agri-food chains
- To preserve traditional **culture** and rural livelihood

⇒ **Legal protection on the European market**



Geographical indications: different from trademarks

- GIs - the EU sui generis system
 - Owned by State on behalf of group of producers Collective brand / public good
 - Controlled and protected by public agencies Link to "terroir" (climate and soil)
 - Free entry of new producers as long as they comply with the product's specification
 - Protection against modifiers or translations
- Trademarks - the anglo-saxon system
 - Owned by one producer
 - No public intervention, protected by firms with help of courts Expensive for small producers
 - No protection against modifiers or translations



Geographical indications: International frictions

- A contentious issue in European trade relationships (“War on Terroir” Joslin 2006)
seen as unfair NTM
export promotion
discrimination Conflicts between existing trademarks and EU Gis
- WTO Disputes in 1999 with the US and in 2003 with Canada
- In 2005, WTO panel report led the EU to allow foreign producers to apply for GI registration in the EU
- Article 22 of the TRIPS Agreement of WTO in 1994
Prevent misuse of information on products’ origin
Weakly prescriptive: compatible with both systems
Less stringent for food products than for wine (article 23)



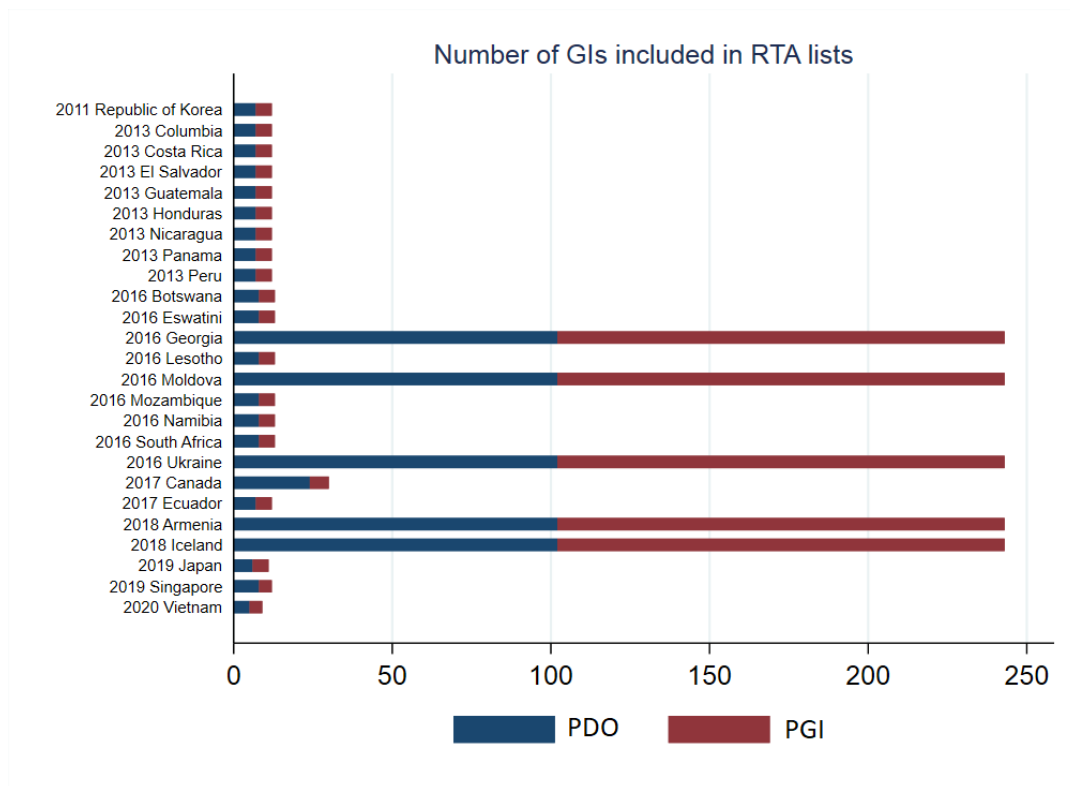
Geographical indications in EU trade agreements

- Since 2011 **external recognition of list of GIs in EU trade agreements** to avoid abuse of reputation
- Coexistence if pre-existing trademarks
- Ex officio protection in some agreements (Engelhart 2015)
- An offensive red line in the ratification of some agreements

- **Why** negotiating such clauses ?
 - Quality products as offensive interests
 - Concentration of GIs in Southern EU countries (Huysmans and Swinnen 2019)
 - Compensation for the liberalization of agricultural markets
 - ”gastronationalism” (Huysmans 2020)



List of Geographical indications in EU trade agreements



GIs in BATModel: The exploitable results



Output reached – Deliverables/ Exploitable Results

- o **Deliverable 6.1** (UNIROMA3): Completed in M30 (February 2023)
 - Systematic literature review and meta-analysis exercise on **effect of GIs on trade**
 - Empirical testing of the impacts of **GIs on local socio-economic development** at the municipality level
 - Policy evaluation to investigate **the international territorial competitiveness of GIs** concerning agri-food Foreign Direct Investment (FDI) attractiveness and the export specialization of Italian municipalities.

Exploitable results:	(Possible) exploitation pathway:
Multi-year panel dataset that reconstructs the time-space variability of GIs in European countries	Research on GIs' impacts with machine-readable data for all GIs in almost all the European countries at the most disaggregated geographical level



Output reached – Deliverables/ Exploitable Results

- o **Deliverable 6.2** (UMIL, CEPII/INRAE):
 - Empirical analysis to assess the **export performance of GI vs. non-GI products** in the cheese sector
 - Analysis of the **effect of protection of GIs under TRIPS** affects the exports of EU wines in extra-EU countries joining the WTO
 - Comparison of GI firms' exports before and after the signature of the 13 agreements
 - Collaboration with INRAE: Initiated analysis of the **effect of import competition on GIs vs. non-GIs firm-level productivity** using data on the French cheese sector

Exploitable results:	(Possible) exploitation pathway:
Novel data set consisting of combination of firm-level data from Italian customs with the information on products concerned by GIs in the cheese industry	Empirical investigations on the impact of GI protection on different economic indicators in France and Italy
Novel dataset of GI firms and products in the French agri-food industry for 2012-2019, merged with firm-product level data	



Output reached – Deliverables/ Exploitable Results

- o **Deliverable 6.3 (TUM)**
 - Further development of **open economy model** accounting for different types of GIs and different domestic and international protection schemes
 - Emphasis on **international protection schemes** (including GI protection in international agreements)
 - Cooperation with INRAE/CEPII: testing of some of the hypotheses using their dataset on exporting French GI firms in the cheese sector

Exploitable results:	(Possible) exploitation pathway:
Theoretical structure of including GIs in models of international trade	Implementation of GI sector in CGE type model/ welfare analysis of different protection schemes in various settings (bilateral/multilateral agreement, institutional protection efficiency)
Development of testable hypotheses concerning the market composition and exporting behaviour of (GI and non-GI firms) following (international) GI protection measures	Empirical investigation structured by theoretical model once appropriate data on inclusion of GIs in trade agreements becomes available



Output reached – Deliverables/ Exploitable Results

- **Deliverable 6.4** (CASE, TUM) *Ongoing and due in M46 (June 2024):*
- Completion of database for **GI products in CGEBox** (110 sectors/products and 32 regions)
- **Simulations of CETA agreement** and its economy-wide impact and sensitivity analyses

Exploitable results:	(Possible) exploitation pathway:
Dataset covering GIs and non-GIs for CGEbox (disaggregation procedure / splitting process into GI and non-GI).	Simulation exercises pinning down the effect of GIs on different levels of aggregation.



Focus on new data

1. temporal and spatial dimensions of EU GIs



eAmbrosia

The official register for agri-food products and wines GI/STG with information on:

- product type (food, wine, spirit or aromatized wines)
- GI type (PDO, PGI, GI or STG)
- legal status, product category and date of application/publication/registration
- Product Specifications and legal documents

☺ updated list of GIs

☹ information categorized in text format and only regards legal information

Product Specifications

<https://ec.europa.eu/info/food-farming-fisheries/food-safety-and-quality/certification/quality-labels/geographical-indications-register/>



**Machine-readable dataset mapping the
temporal and the spatial dimensions of the GIs
existing in different European countries**

+

socio-economic data

+

agri-food related data



Data

Official information from **Product Specifications** – eAmbrosia

Extraction of the list of GIs up to September 2021:

- status** (applied, published or registered),
- product type** (food, wine, spirit drink or aromatised wine),
- GI type** (PDO, PGI or GI),
- product category**
- country**
- application/publication and registration date**

Extraction of the geographical area from the section titled “**Concise Definition of Geographical Area**”, “**Demarcated geographical area**”, or a section labelled similarly (there is not a harmonized title or section number, indeed) of Product Specifications by using text-miner tools.



Baseline

A panel dataset build with machine-readable data available at the level of Local Administrative Units-year for all GIs in Europe since the 1970s

- multi-year **geo-referenced** panel dataset that reconstructs the time-space variability of all the GIs at the local level
- Unit of observation is the LAU, observed over time.

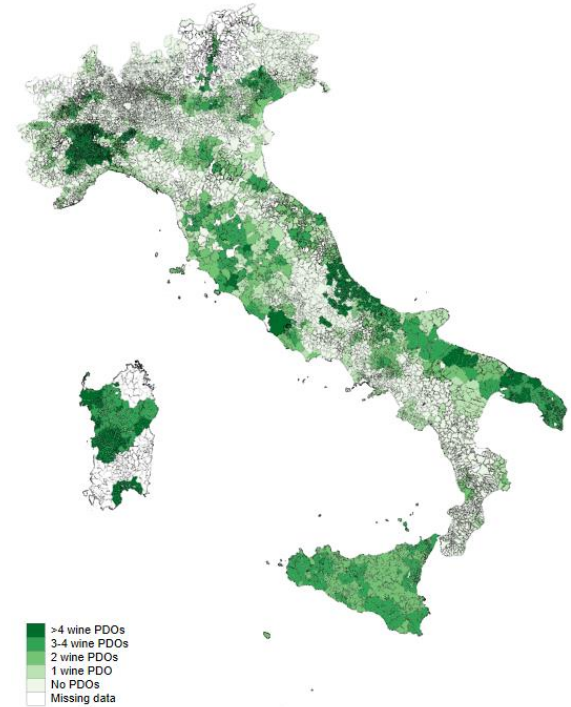
Period: 1960-2021 (some countries have no data about GIs before 1992)

Key variable The variable accounting for the GI is therefore a LAU-year varying dummy with value 1 for all the LAUs included in the production area since the year when the GI has been registered. Conversely, they code 0 (i) for the years before the registration and (ii) for not included LAUs.

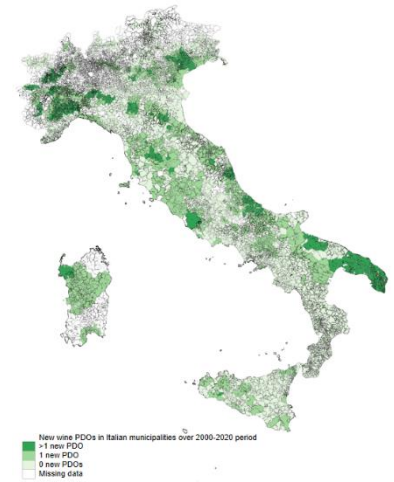


Sample: EU LAUs (i.e. Italian municipalities)

- Countries: Austria, Belgium, Denmark, Finland, France, Germany, Hungary, Italy, Lithuania, Netherlands, Portugal, Romania, Slovakia, Slovenia, Spain, United Kingdom and Ireland.
- For technical reasons, we excluded the following countries: Bulgaria, Croatia, Cyprus, Czechia, Greece, Latvia, Malta, Poland, Sweden, Luxemburg. For the majority of them, Product Specification are written only in Cyrillic alphabet. Product Specification is indeed not mandatorily written in English and even if an English-written summary is available, the list of the geographical areas is not reported.



	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	
1	Municipality	Municipality Code	NUTS1 (Country)	NUTS2	NUTS2 Code	NUTS3	NUTS3 Code	Number of GI	Number of Food GIs	Number of PDOs	Number of PGIs	Number of Wine GIs	Number of Wine PGIs	Number of wine DOCs	Number of wine DOCGs	Number of wine PDOs	Name of GI (1)	Name of GI (2)	Name of GI (3)	Esempio - Prosecco		
2	Abano Terme			Veneto		Padova		1	0			1		1		1					1	
3	Adria			Veneto		Rovigo																
4	Affi			Veneto		Verona																
5	Agna			Veneto		Padova																1
6	Agordo			Veneto		Belluno																1
7	Agugliaro			Veneto		Vicenza																1
8	Alano di Piave			Veneto		Belluno																1
9	Albaredo d'Adige			Veneto		Verona																
10	Albettono			Veneto		Vicenza																1
11	Albignasego			Veneto		Padova																1
12	Alleghe			Veneto		Belluno																1
13	Alonte			Veneto		Vicenza																1
14	Alpago			Veneto		Belluno																1
15	Altavilla Vicentina			Veneto		Vicenza																1
16	Altissimo			Veneto		Vicenza																1
17	Altivole			Veneto		Treviso																1
18	Angiari			Veneto		Verona																
19	Anguillara Veneta			Veneto		Padova																
20	Annone Veneto			Veneto		-																



	A	B	C	D	E	F	G	H	I	J	K	L
1		Status (Applied/Published/Registered)	Product type (name)	Type (PDO/PGI/GI)	Product category	Country	Application date	Publication date	Registration date	Legal document	Geographical area (Product Specification paragraph)	Municipalities (extracted)
2												
3		Name of GI(1)										
4		Name of GI(2)										
5		Name of GI(3)										
6												
7												
8												
9												
10												
11												



Added datasets:

Socio-economic factors

- Administrative census data (ISTAT)

Geo-referenced data

Sensoring data (e.g., distances)

- Agri-food related factors
- Agricoltura census (ISTAT)
- Data on firms (FADN-RICA)

The strength is that you can add what you want!
Look at some examples and applications!



Geographical Indications and local development: the strength of territorial embeddedness

- Focus: GIs and rural development
- Additional data: socio-economic characteristics + data on GVA + data on employment by ATECO

Riccardo Crescenzi, Fabrizio De Filippis, Mara Giua & Cristina Vaquero-Piñeiro (2022) Geographical Indications and local development: the strength of territorial embeddedness, *Regional Studies*, 56:3, 381-393, DOI: 10.1080/00343404.2021.1946499

Predicting agri-food quality across space: A Machine Learning model for the acknowledgment of Geographical Indications

- Focus: the socio-economic and cultural determinants of GIs
- Additional data: the possible highest number of data at the municipality level

Giuliao Resce & Cristina Vaquero-Piñeiro (2022). Predicting agri-food quality across space: A Machine Learning model for the acknowledgment of Geographical Indications. *Food Policy*, 112.



From local to global, and return: Geographical Indications and FDI in Europe

- Focus: GIs and internationalization
- Additional data: FDI attracted by each territory (source: FinancialTimes data)

Riccardo Crescenzi, Mara Giua, Luca Salvatici & Cristina Vaquero-Piñeiro (under review)

GI territories trade better

- Focus: GIs and internationalization
- Additional data: import-export flows at municipality level (source: ISTAT) for SH8 classification

Mara Giua, Luca Salvatici, Cristina Vaquero-Piñeiro & Roberto Solazzo (ongoing)

Attraction of Cohesion and Rural Policy Funds

- Focus: Regional and CAP policy
- Additional data: expenditure for Cohesion and RDP deals at municipality level

Mara Giua & Cristina Vaquero-Piñeiro (ongoing)



Focus on new data

2. Firm level data to identify GI flows in trade



Geographical indications: Data sources in France

- INAO dataset : authorized plants for a given GI product 2012-2019
- French customs dataset : export in value and quality, by firm, destination and NC8 product
- FARE Dataset from INSEE : characteristics by firm and year (size, productivity)
- List of GIs products included in RTA



Geographical indications: Correspondance issues

- Correspondence GI products ⇒ NC8 codes
 - A GI product may correspond to several NC8
 - A NC8 may correspond both to GI and non-GI product
 - INAO dataset : authorized plants for a given GI product 2012-2019
 - ⇒ All exports of a authorized firm of a NC8 code concerned by a GI are considered labelled in our dataset
 - ⇒ GI firms may export both labelled and non-labelled products
- Correspondence plant (SIRET) ⇒ firms (SIREN)



Geographical indications: Descriptive statistics

- 225 French Geographical Indications (99 AOP and 126 IGP)
- 313 NC8 codes (over a total of 2,313), mainly in the dairy and meat sectors
- 337 authorized firms (over 5,046)

- GIs exported to 160 destinations (over 226)
- 25 countries have RTAs with the EU which include lists of GIs



Geographical indications: Some estimations

$$\text{Exp}_{fjkt} = \alpha \text{GI}_{fkt} + \beta \text{GI}_{fkt} \times \text{Agreement}_{jkt} + \Pi_{ft} + \xi_{jkt} + \varepsilon_{fjkt}$$

- GI_{fkt} is a dummy indicating whether firm f is authorized to handle GIs for
- k in t
- Agreement_{jkt} is a dummy indicating whether country j recognizes a GI for product k in t
- Π_{ft} time variant firm characteristics (productivity) or fixed effects
- ξ_{jkt} fixed effects controls for characteristics of the market of country j and good k the year t
- $\text{Exp}_{fjkt} =$
 - $\ln q_{fjkt}$ log of export quantity of f to j for the k at t X_{fjkt} dummy=0 if f exports k to j at t
 - X_{fjkt} dummy=0 if f exports k to j at t
 - $\ln v_{fjkt}$ log of export unit values of f to j for the k at t





Some results

- Joint work with CEPII (Charlotte Emlinger)
- Effect on GI firms exporting these GIs:

	Probability to export	Quantity exported	Unit Values
Global	ns	ns	ns
EU markets	++	ns	+
Countries with RTA	+	ns	++

- Heterogeneous effects:
 - Stronger effect for cheese
 - Stronger effect for Canada and Japan
 - Stronger effect for countries importing higher quality goods

Geographical indications: The impact depends on the agreement

- The impact of agreements may vary due to :
 - The protection/monitoring of GIs in the destination market after the agreement
 - The knowledge/taste of consumers for GIs and quality in general

⇒ Distinguish agreements with ex officio protection of GIs from the others

⇒ Compute the quality ladder and the average quality for each market jk following Khandelwal (2013) to account for prior product differentiation and consumer taste for quality

- Publication

Charlotte Emlinger & Karine Latouche, 2024. "Protection of Geographical Indications in Trade Agreements: Is it worth it?," CEPII Working Paper 2024- 05 , March 2024 , CEPII.



Data input for simulation models



Geographical indications: extension of CGEBox ongoing

- Disaggregation of GTAP-AGROFOOD database

Detailed information on products (poultry sector, GI and non GI products)

Detailed information at NUTS2 level

=> Disaggregation based on French data

output share (GI/non GI)

export share

- Disaggregation process uses the split utility incorporated in CGEBox software

⇒ Quantifying and modelling GI protection in CGE and simulation on CETA

Results available and published soon!



BATModel

better agri-food trade modelling for policy analysis



Thank You!

Karine Latouche

Contacts

Karine.latouche@inrae.fr

www.batmodel.eu



THIS PROJECT HAS RECEIVED FUNDING FROM
THE EUROPEAN UNION 'HORIZON 2020 RESEARCH
AND INNOVATION PROGRAMME'
UNDER GRANT AGREEMENT N. 861932

Funded by the European Union. Views and opinions here expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Commission. Neither the European Union nor the European Commission can be held responsible for them.