



Geographical indications for non-agricultural products

Cost of Non-Europe Report

STUDY

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Cost of Non-Europe Report

This Cost of Non-Europe report seeks to quantify the costs arising from the lack of European Union (EU) legislation protecting Geographical Indications (GIs) for non-agricultural products and to analyse the benefits foregone for citizens, businesses and Member States. The report estimates that introducing EU-wide GI protection for non-agricultural products would have an overall positive effect on trade, employment and rural development. More precisely, after approximately 20 years of implementation, such a protection scheme would yield an overall expected increase in intra-EU trade of about 4.9-6.6 % of current exports (€37.6-50 billion) in the more relevant sectors. Expectations are that regional-level employment would rise by 0.12-0.14 % and that 284 000-338 000 new jobs would be created in the EU as a whole. The expected positive impact on rural development would materialise, among other things, through direct support for locally based high-quality producers, rural economic diversification and local producers' capacity to organise collectively.

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Executive summary

Geographical indications (GIs) identify goods¹ as originating in a country, region or locality, where a particular quality, reputation or other characteristic of the products is essentially attributable to their geographical origin. Some popular examples include Bordeaux (wine), Vetro di Murano (glass) and Prosciutto di Parma (ham).

In the European Union (EU), there are well-known GIs for agricultural products, foodstuff, wines and other alcoholic beverages. However, the use of GIs is not limited to agricultural products. A GI may also highlight a product's specific qualities that are due to human factors – such as specific manufacturing skills and traditions – found in the product's place of origin. This is the case of handicrafts, which are generally made by hand with the use of local natural resources and are usually embedded in the traditions of local communities. Examples include Bohemian crystal, Scottish tartan, Carrara marble and Meissner porcelain.

This Cost of Non-Europe (CoNE) report underlines the overall positive effect on trade, employment and rural development that the introduction of EU GI protection for non-agricultural products would bring. It has been prepared by the European Added Value (EAVA) Unit of the European Parliamentary Research Service (EPRS) for the European Parliament's Committee on Legal Affairs (JURI), in support of the latter's resolution on a possible extension of EU GI protection to non-agricultural products (rapporteur: Virginie Rozière, (S&D, France)).²

Originally, GIs were protected by national law. However, once commerce rapidly expanded in the late 19th century, provisions on the protection of GIs were incorporated into several international treaties relating to the protection of intellectual property rights (IPR). The Agreement on Trade-Related Aspects of Intellectual Property Rights (the TRIPS Agreement), which was concluded in 1990 and came into force with effect from 1 January 1995, was the first multilateral treaty dealing with GIs as such. The TRIPS Agreement prescribes a minimum standard of protection for GIs and additional protection for wines and spirits. It furthermore requires World Trade Organization (WTO) members to provide legal means to prevent the use of a GI that misleads the public with regard to the geographical origin of the goods or constitutes an act of unfair competition.

With the above exception, GIs for non-agricultural products have so far been mainly protected at national level. Most EU Member States grant some sort of GI protection to some non-agricultural products, including through consumer protection laws, trademarks, case-law, or a *sui generis* GI system.

At EU level, unitary GI protection is currently only provided for wines, spirit drinks, aromatised wines and agricultural products and foodstuffs. The absence of harmonised GI protection for non-agricultural products results in fragmentation that comes at a cost to consumers, producers and Member States, affecting the EU economy and especially trade, employment and rural development. This CoNE report identifies and quantifies the cost of the absence of EU-level GI protection for non-agricultural products, by building on evidence collected for agricultural GIs, and shows that the introduction of such a scheme would have an **overall positive effect on intra-EU trade**. However, this depends on whether the introduction of a new GI-protected product occurs in the importer or the exporter country.

¹ Throughout the report, 'good' and 'product' are used interchangeably but invariably refer to tangible goods.

² European Parliament resolution of 6 October 2015 on the possible extension of geographical indication protection of the European Union to non-agricultural products, [2015/2053\(INI\)](#).

About 20 years after the introduction of an EU scheme in the 17 non-agricultural sectors that include 80 % of existing and potential GIs, the expected increase of intra-EU value of exports would be between €37.6 and €50 billion in bilateral exports, which represents between 4.9 % and 6.6 % of the exports in the same sectors in 2018. However, the effect in each sector can vary a lot. A strong positive impact is expected in the ceramic sector, which has the highest number of existing and potential GIs, while a negative effect is expected in the tobacco sector and in the sector of toys, games and sports requisites.

Regarding **extra-EU trade**, based on the literature on agricultural GIs, one may expect a positive effect on EU exports. At the same time, EU imports from extra-EU countries are expected to decline with the introduction of new GIs in the EU, although this negative effect may be mitigated in cases where third countries have a GI policy in place. For both intra-EU and extra-EU trade, the most recent – though not extensive – literature on agricultural GIs finds clearer support for the export-increasing effect than for the import-decreasing one.

This CoNE report shows that the introduction of EU GI protection for non-agricultural products would have a **positive effect on employment**. The analysis shows a potential increase of regional-level employment by 0.12-0.14 %. Overall, this move would help create between 284 000 and 338 000 new jobs across the EU.

Finally, this CoNE report underlines that the introduction of an EU scheme protecting GI for non-agricultural products would also have a positive impact on consumer and producer welfare. It would allow to decrease information asymmetries between producers, thus benefiting both consumers and GI producers. Overall, the impact on consumers and (GI and non-GI) producers would depend on the administrative costs for GI registration, on the difference between GI and non-GI products in terms of quality, and on the market power enjoyed by GI producers. Such an EU scheme would moreover **boost rural development**. In particular, it could improve rural livelihoods that rely on local resources; help maintain rural population levels; support rural economic diversification (e.g. tourism); and enhance the ability of local producers to collectively organise.

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Abbreviations

AO	appellation of origin
CETA	Comprehensive Trade and Investment Agreement
CoNE	Cost of Non-Europe
EPRS	European Parliamentary Research Service
EU	European Union
GI	geographical indication
IPR	intellectual property right
JURI	European Parliament Committee on Legal Affairs
N/A	not applicable
NUTS	nomenclature of territorial units for statistics
PDO	protected designation of origin
PGI	protected geographical indication
QWSR	quality wines from specified regions
TRIPS	Agreement on Trade-Related Aspects of Intellectual Property Rights
WIPO	World Intellectual Property Organization
WTO	World Trade Organization

1. Background

The notion 'Cost of Non-Europe' was introduced by Michel Albert and James Ball in a 1983 report commissioned by the European Parliament. This notion was also the central element of a 1988 study on the Cost of Non-Europe in the single market, carried out for the European Commission by Italian economist Paolo Cecchini. This approach was revisited in a 2014 report on the same subject. In the 2016 Interinstitutional Agreement on Better Law-Making, it was agreed that analysis of the potential 'European added value' of any proposed EU action, as well as an assessment of the 'cost of non-Europe' in the absence of action at EU level, should be fully taken into account when setting the legislative agenda.

Cost of Non-Europe (CoNE) reports are designed to examine the possibilities for gains and/or the realisation of a 'public good' through common action at EU level in specific policy areas and sectors. They attempt to identify areas that are expected to benefit most from deeper EU integration, and for which the EU added value is potentially significant.

On 6 October 2015, the Parliament adopted, by a vast majority (608 in favour, 43 against and 43 abstentions), a report calling for EU geographical indication (GI) protection to be extended to non-agricultural products.³ In addition, six questions⁴ for a written answer have been addressed to the European Commission since January 2015, mainly focusing on the need for a legislative initiative in this respect.

In a 28 October 2015 communication on upgrading the single market, the Commission announced that it would step up efforts to introduce EU protection for non-agricultural GIs.⁵ However, even if the 2014 green paper on a possible extension of GI protection of the EU to non-agricultural products⁶ and subsequent consultations⁷ have confirmed that there is a great and widespread interest in this initiative, the Commission has not yet put forward an initiative.

In May 2016,⁸ the Commission stated that it 'is currently finalising an Inception Impact Assessment' and underlined that it 'will decide on the appropriate follow-up to be given to this file, in light of the results of the impact assessment'. On 10 February 2017,⁹ it reiterated that it 'is still finalising an inception impact assessment that will be made public'. However, more than two years later, the Commission has not yet published an inception impact assessment. In addition, on 20 December 2017,¹⁰ not mentioning any ongoing inception impact assessment any more, the Commission

³ European Parliament resolution of 6 October 2015 on the possible extension of geographical indication protection of the European Union to non-agricultural products, [2015/2053\(INI\)](#).

⁴ [Question](#) asked on 27 October 2017; [question](#) asked on 5 December 2016; [question](#) asked on 18 March 2016; [question](#) asked on 28 January 2016; [question](#) asked on 14 April 2015; and [question](#) asked on 30 January 2015.

⁵ Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, 'Upgrading the Single Market: more opportunities for people and business', [COM\(2015\)550](#), 2015.

⁶ Green paper on 'Making the most out of Europe's traditional know-how: a possible extension of geographical indication protection of the European Union to non-agricultural products', [COM/2014/0469](#), 2014.

⁷ European Commission, [public consultation](#) on the possible extension of geographical indication protection by the EU to non-agricultural products, published on 15 July 2014.

⁸ [Answers](#) given by Commissioner Elżbieta Bieńkowska on 19 May 2016; and [answer](#) given by Commissioner Bieńkowska on 20 May 2016.

⁹ [Answer](#) given by Commissioner Bieńkowska.

¹⁰ [Answer](#) given by Commissioner Bieńkowska.

announced that it 'is planning to launch a study to get further economic and legal evidence on the protection of non-agricultural geographical indications (GIs) within the single market'.

Against this background, the European Parliament Committee on Legal Affairs (JURI) decided at its meeting of 26 March 2018 to ask the European Parliamentary Research Service (EPRS) to carry out a study on the Cost of Non-Europe (CoNE) focused on GIs for non-agricultural products.

Accordingly, the present CoNE report analyses the potential efficiency gain of introducing GI protection for non-agricultural products in the EU. It identifies the associated costs but does not assess the effectiveness of policy options.

1.1. Definition of geographical indication

The definition of geographical indication (GI) was accepted internationally by the World Trade Organization (WTO) member countries that signed the Agreement on Trade Related Aspects of Intellectual Property Rights (hereafter the TRIPS Agreement). According to Article 22(1) of the TRIPS Agreement, 'Geographical indications are, for the purposes of this Agreement, indications which identify a good as originating in the territory of a Member, or a region or locality in that territory, where a given quality, reputation or other characteristic of the good is essentially attributable to its geographical origin'.¹¹

In other words, GIs are a specific form of intellectual property rights (IPRs) that identifies products originating in the territory of a particular country, region or locality, where their quality, reputation or other characteristic are linked to their geographical origin. According to the Commission,¹² a GI has the following features:

- it is a distinctive sign used on goods;
- the goods on which it is placed have a specific geographical origin;
- the goods on which it is placed possess qualities or reputation that are due to that origin.

This definition highlights a degree of commonality between GIs and trademarks, especially in terms of the economic rationale for protecting the intellectual property of goods and services. Both GIs and trademarks aim to address the informational asymmetries between buyers and sellers and the role of reputation through the use of distinctive signs. This common rationale suggests a close proximity between the two instruments, yet there are also significant differences between them, as illustrated in Table 1 below.

¹¹ Article 22(1) of the [Agreement on Trade-Related Aspects of Intellectual Property Rights](#), 1994.

¹² European Commission, '[Geographical indications and TRIPs: 10 Years Later... A roadmap for EU GI holders to get protection in other WTO Members](#)', 2007, p. 1.

Table 1: Differences between trademarks and GI regimes

Issue	Trademark regime	GI system
Certification of origin	May certify the origin of the product Trademarks should not mislead the public on the origin of the product.	Must certify the origin of the product
Collective or individual approach	Both individual and collective marks can be registered. With the collective mark, one entity allows its members to use the mark.	In principle, a group submits an application. The registered name is available to any producers located within the designated area, who meet the requirements set out in the GI specification.
Link to the geographical origin	Production is not linked to a specific place.	Production is rooted in the defined geographical area.
Scope of protection	The registered trademark provides for the exclusive rights on the use of the name and/or logo in the classes of products under which it has been registered. There is no guarantee against the use of the trademark in translation and with expressions like 'style', 'type', etc. There no is guarantee against 'genericity': if the trademark owner does not assert their rights, the trademark name can become a generic name. For the protection to be effective, the trademark must be used on the market. Failure to use the trademark can lead to cancellation.	The EU <i>sui generis</i> GI system provides for a comprehensive protection of agricultural products. Such protection is, for instance, against: – direct or indirect commercial use of a registered name for products not covered by the registration. – misuse, imitation or evocation of the name on a non-registered product. This extends to expressions such as 'style', 'type', etc., suggesting that the product is equivalent or associated with the original, even if the true origin of the product is indicated or if the protected name is translated; – 'genericity', meaning that once registered, the GI name cannot become generic. Protection of GIs is usually not conditioned on the use on the market.
Enforcement of the IPR	Enforcement of trademark rights is entirely private and it is up to the owner to defend their right.	Relies mostly on private actions from the owner; in some cases, public authorities can also take action on their own initiative. In countries with <i>sui generis</i> systems of protection, ¹³ GIs are

¹³ *Sui generis* protection refers to systems specifically and exclusively aimed at protecting GIs. Such systems establish a specific right, a *sui generis* right, over GIs, separate from any other IPRs.

Issue	Trademark regime	GI system
		protected through administrative enforcement.
Cost of protection	Relatively high costs of registration and high costs of right's enforcement in many countries	Often limited registration costs At the EU level, GI registration for agricultural products is free of charge. Often less expensive costs of right's enforcement
Controls	Individual control The owner of a trademark oversees inspection.	Collective control by producers or independent agencies, or the government undertakes inspections on compliance
Duration of protection	Protection must be renewed periodically. In the EU, a trademark must be renewed every 10 years.	Protection normally lasts until the conditions justifying protection are upheld. In the EU, GI protection for agricultural products is not limited in time.

Data source: authors' own elaboration based on a number of sources.¹⁴

In addition, it is important to underline that part of the literature considers trademarks intangible assets that can be exchanged on the market like any other resource, highlighting another main difference between trademarks and GIs.¹⁵

1.2. Legal protection of GIs for non-agricultural products

As previously stated, GI is a type of IPR that is protected under a wide range of legal tools. Originally, GIs were protected in accordance with national laws developed at the local level (see Section 1.2.4). However, once commerce rapidly expanded in the late 19th century, it became quickly apparent that international protection was needed as products were often imitated (See Section 1.2.1 below).

1.2.1. International treaties on the protection of GIs for non-agricultural products

To date, there have been several international treaties relating to the protection of intellectual property that included provisions on the protection of GIs. The first such treaty, which would eventually become part of the framework of the World Intellectual Property Organization (WIPO), is the Paris Convention for the Protection of Industrial Property of 1883.¹⁶ It applies to industrial property in the broadest sense, covering patents, trademarks, industrial designs, utility models, service marks, trade names, indication of source and appellation of origin (geographical indications)

¹⁴ [Q&A Manual: European Legislation on Geographical Indications](#), EU-CHINA IPR2, pp.15-18; and European Commission, [Study on geographical indications protection for non-agricultural products in the internal market](#), 2013, pp. 44-46.

¹⁵ In particular, certain authors have observed a sort of 'unbundling' taking place within different contexts, i.e. the trademark gradually detaching itself from the product to take on a physiognomy and character of its own, capable of being exploited on the markets in various ways. See G. B. Ramello, ['What's in a sign? Trademark law and economic theory'](#), *Journal of Economic Surveys*, 2006.

¹⁶ [Paris Convention for the Protection of Industrial Property](#) of 20 March 1883, as amended on 28 September 1979.

and the repression of unfair competition. The Paris Convention identifies a GI as a separate intellectual property right, but does not clearly define the concept. Article 10 of the Paris Convention provides for certain remedies in respect of the unlawful use of indications of source on goods, meaning that no indication of source may be used if it refers to a geographical area from which the products in question do not originate. Article 11bis also gives the basis for protection against misleading indications, but does not provide for any special remedies in case of such infringements. This explains the presence of Article 19 that allows for further discussion between the signatories of the convention in order to make 'special agreements for the protection of industrial property'.

The first such special agreement was the 1891 Madrid Agreement for the Repression of False or Deceptive Indication of Source of Goods.¹⁷ It was the first multilateral agreement to provide specific rules for the repression of false and deceptive indication of source.

In 1958, the Lisbon Agreement for the Protection of Appellations of Origin and their International Registration¹⁸ (hereafter the Lisbon Agreement) established the Lisbon System. The agreement provides that 'protection shall be ensured against any usurpation or imitation, even if the true origin of the product is indicated or if the appellation is used in translated form or accompanied by terms such as "kind", "type", "make", "imitation", or the like'.¹⁹ Once registered, an appellation of origin (AO) is protected in the other states that are participating in the system. The register also includes non-agricultural products.

The 1990 WTO TRIPS Agreement is the first multilateral treaty dealing with GIs as such. The agreement was negotiated within the framework of the Uruguay Round and is effective since 1995. The rationale behind this agreement was to reach an arrangement on international trade rules on intellectual property rights, so to maintain order and predictability and to settle disputes more systematically. Accordingly, it established a minimum standard of protection and enforcement that WTO members would have to adhere to. Concerning GIs, the TRIPS Agreement states that WTO members have to provide ways to prevent the misuse of GIs. It expands the AO concept embedded in the Lisbon Agreement and includes the protection of products from other products that merely derive a reputation from their place of origin without possessing a given quality or other characteristics that are derived from that place. To be protected, a GI needs to be 'an indication', but it does not necessarily need to feature the name of the geographical place. Some exceptions in indicating the source of origin are allowed, for example, if a trademark was already protected before the TRIPS Agreement came into force or if it has become a generic term and has a certain reputation. GIs were also a point of contention and debate during the Doha Development Round, where WTO members could not agree on an extension of the protection.

In 2015, the Geneva Act of the Lisbon Agreement was adopted at a diplomatic conference.²⁰ The Geneva Act revised the Lisbon Agreement by allowing the international registration of GIs, in addition to AOs, and permitting the accession to the Lisbon Agreement of certain intergovernmental organisations. Seven Member States²¹ are parties to the Lisbon Agreement,

¹⁷ [Madrid Agreement for the Repression of False or Deceptive Indications of Source on Goods](#) of 14 April 1891.

¹⁸ [Lisbon Agreement for the Protection of Appellations of Origin and their International Registration](#), as amended on September 28, 1979.

¹⁹ Article 3 of the Lisbon Agreement.

²⁰ [Geneva Act of the Lisbon Agreement on Appellations of Origin and Geographical Indications](#), as adopted on May 20, 2015.

²¹ Bulgaria, Czechia, France, Italy, Hungary, Portugal and Slovakia.

while three other have signed but not ratified it.²² The EU itself is not yet a party to the Lisbon Agreement. On 27 July 2018, the Commission recommended that the EU join the Geneva Act and subsequently submitted a proposal for the EU's accession to the Geneva Act²³ and a proposal for a legal framework on the EU's participation in it.²⁴ Whereas the latest proposal has to be adopted according to the ordinary legislative procedure, the accession to the Geneva Act requires only the consent of the Parliament.²⁵ A provisional agreement having been reached between the Council and the Parliament in March 2019, the EU should now be authorised to accede to the Geneva Act.

1.2.2. International trade agreements on the protection of GIs for non-agricultural products, to which the EU is a party

There are currently no EU trade agreements explicitly protecting GIs for non-agricultural EU products. Nonetheless, the EU's efforts over the past decade to seek increased international-level protection for its GIs, especially for agricultural products, have undergone two significant shifts. Firstly, after having concluded for many years bilateral agreements exclusively targeting GIs (standalone agreements),²⁶ the EU started focusing more and more on trade agreements with detailed intellectual property and GI sections. Secondly, without abandoning its commitment to multilateralism, the EU started launching negotiations for bilateral trade agreements, following an ongoing deadlock in the WTO Doha Development Round of negotiations.²⁷

The EU's general approach to GIs and IPRs in trade agreements is seen in the guiding principles on one of its latest and biggest economic partnership agreements, the one with Japan.²⁸ Article 14(1) of this agreement states that 'In order to facilitate the production and commercialisation of innovative and creative products and the provision of services between the Parties and to increase the benefits from trade and investment, the Parties shall grant and ensure adequate, effective and non-discriminatory protection of intellectual property and provide for measures for the enforcement of intellectual property rights against infringement thereof...'.²⁹ Some 205 EU agricultural products with a GI will be protected under this agreement. This is a notable increase compared to the comprehensive trade and investment agreement (CETA) with Canada, which has a list of 143 prioritised names amongst the most traded EU food and drink products. GI designation in such agreements may also affect third-country trading partners. This means that if Japan enforces the GI protection of an EU product, not only Japanese producers could be affected, but also

²² Greece, Spain and Romania.

²³ Proposal for a Council Decision on the accession of the European Union to the Geneva Act of the Lisbon Agreement on Appellations of Origin and Geographical Indications, [COM\(2018\) 350](#).

²⁴ Proposal for a regulation of the European Parliament and of the Council on the action of the Union following its accession to the Geneva Act of the Lisbon Agreement on Appellations of Origin and Geographical Indications, [COM\(2018\) 365](#).

²⁵ Procedures [2018/0214/NLE](#) and [2018/0189\(COD\)](#). In terms of substance, both acts form part of a single package, with the proposed Council decision providing the legal act allowing for the Union's accession to the Geneva Act, and the proposed regulation setting out the rules governing the action of the Union following its accession to the Geneva Act.

²⁶ Within the framework of standalone agreements on GIs, the EU has concluded three agreements: one with Georgia (2011), another with Moldova (2012), and a third with Iceland (2017). It is currently negotiating other such agreements. None of these agreements include European non-agricultural products.

²⁷ T. Engelhardt, 'Geographical Indications under Recent EU Trade Agreements', *IIC - International Review of Intellectual Property and Competition Law*, Vol. 46, No 7, 2015, p. 782.

²⁸ [Agreement between the European Union and Japan for an Economic Partnership](#), signed on 17 July 2018, entered into force 1 February 2019.

²⁹ *ibid.*, Article 14(1) p. 349.

producers from third countries that export to the Japanese market. These agreements tend not to exclude *a priori* non-agricultural products, and the possibility of introducing amendments to a list of protected GIs is open for future reconsideration.

In addition, the trade agreement between the EU and Colombia and Peru³⁰ contains a list of EU protected GIs only for agricultural products. Yet, the Colombian and Peruvian list extends to one non-agricultural GI product each, Guacamayas Handicrafts of Colombia and Chulucanas Pottery of Peru.³¹ The inclusion of these non-agricultural products appears to be justified in light of the fact that industrial products and handicrafts are protected within the jurisdictions of the Andean Community.³² The agreement offers the possibility of making amendments to the list of protected GIs, which is revised by a specially created Sub-Committee on Intellectual Property. At its first meeting on 11 February 2014, Colombia submitted a list of 18 new GIs, nine of which were related to non-agricultural products. These new products are currently under consideration in the sub-committee.³³ Nevertheless, this means that there is also a possibility for the EU to amend certain past agreements in order to include GI protection for non-agricultural products. The EU-Andean Community case illustrates that as long as there is no EU-level GI protection for non-agricultural products, the Commission does not conduct negotiations on behalf of the Member States for the protection of such products.

1.2.3. EU-level protection of GIs for non-agricultural products

Regulation (EU) 1151/2012³⁴ guarantees EU protection of GIs for agricultural products and foodstuffs.³⁵ In addition, Regulation (EU) 608/2013 accepts other definitions of GI 'in so far as it is established as an exclusive intellectual property right by national or Union law'.³⁶

A limited number of handicrafts produced from agricultural products, such as hay, essential oils, cork, cochineal, flowers, ornamental plants, wool, wicker, scutch flax and cotton, are already within the scope of Regulation 1151/2012.³⁷ For products that do not fall within the scope of this regulation, their GI protection is only provided by the Member States where they are registered. In

³⁰ Trade Agreement between the European Union and its Member States, of the one part, and Colombia and Peru, of the other part ([EU/CO/PE/en](#)), signed on 26 June 2012 (with Ecuador joining in 2017).

³¹ *ibid.*

³² See Article 212 of [Decision No 486](#) of the Andean Community.

³³ A. Zygierevicz, [Trade agreement between the European Union and Colombia and Peru: European Implementation Assessment](#), EPRS, European Parliament, 2018, p. 63.

³⁴ [Regulation \(EU\) No 608/2013](#) of the European Parliament and of the Council of 12 June 2013 concerning customs enforcement of intellectual property rights and repealing Council Regulation (EC) No 1383/2003.

³⁵ [Regulation \(EU\) 1151/2012](#) mentions different legal designations of GIs for agricultural products. The legal designation of protected geographical indicator (PGI) guarantees that a good has been produced in a particular geographical area. Protected designation of origin (PDO) guarantees that a product is associated with both a geographical location and a production technique. There is also the traditional speciality guaranteed (TSG) designation, which means that either the ingredients or the production process are traditional. The main difference between the PDO and the PGI is that in the case of the former, the entire production process, from the sourcing of the raw material to the finished goods, must be completed at the site of origin.

³⁶ Article 2(4) of Regulation (EU) No 608/2013.

³⁷ These kinds of GIs can be registered and therefore protected at the EU level. The regulation prescribes a registration procedure and establishes conditions for the protection of these products. An example of this is the Italian essential oil of Bergamotto di Reggio Calabria PDO. While derived from an agricultural product, this is an essential component of an *eau de toilette*, a non-agricultural and non-foodstuff-related product.

addition, as already mentioned, seven EU Member States are signatories to the Lisbon Agreement and thus protect the GIs of their registered non-agricultural products.

1.2.4. Member States' protection of GIs for non-agricultural products

The GIs of non-agricultural products have been protected for a long time in some EU Member States. Protection is granted at national or regional level through a wide variety of legal schemes, including:

- consumer protection laws: unfair competition laws and consumer laws are in place, allowing to seek redress in all Member States. However, they are barely used by producers. Protection granted under these laws is mainly focused on consumers and requires producers interested in protecting their IPR to provide evidence, which can be both costly and uncertain;
- trademarks: trademark laws are largely similar throughout the EU and grant a positive protection right that allows its holder to seek registration in other countries. The existence of a community trademark regime and the Madrid System for the International Registration of Marks facilitates the protection of these names outside of their country of origin;
- case-law;
- *sui generis* GI systems: at least 13 Member States have such a system for non-agricultural products, each with its own specificities. These systems provide different types of protection, either through horizontal legal instruments protecting all non-agricultural products, or through specific laws, designed to protect only a certain type of product (e.g. ceramics).³⁸

³⁸ For example, some EU Member States have specific national legislation, one such example being the Solingen Decree of 16 December 1994 ([BGBl. I S. 3833](#)), covering German cutlery, scissors, razorblades and knives.

Table 2: Tools available for the protection of non-agricultural GI products at the national level

	Consumer protection laws	Trademark laws	Case law	Sui generis system
Austria	X	X		
Belgium	X	X		X
Bulgaria	X	X		X
Cyprus	X	X		
Czechia	X	X		X
Denmark	X	X		
Estonia	X	X		X
Finland	X	X		
France	X	X	X	X
Germany	X	X		X
Greece	X	X		
Hungary	X	X		X
Ireland	X	X		
Italy	X	X		X
Latvia	X	X		X
Lithuania	X	X		
Luxembourg	X	X		
Malta	X	X		
Poland	X	X		X
Portugal	X	X		X
Romania	X	X		X
Slovakia	X	X		X
Slovenia	X	X		X
Spain	X	X		X
Sweden	X	X		
The Netherlands	X	X		
United Kingdom	X	X		X

Data source: '[Study on GI protection for non-agricultural products in the internal market](#)', European Commission, 2013.

Furthermore, as mentioned above, several EU Member States are signatories to the Lisbon Agreement, which provides protection both to agricultural and non-agricultural products. As a result, a number of products that are traditionally made in specific regions of these Member States – such as the 'Emaux de Limoges' from France, the 'Kaolinovski Kaolin' from Bulgaria and the 'Česky Porcelán' from Czechia – are protected.

These different approaches result in varying scopes, types, and levels of legal protection across the EU. There is no harmonised protection of GI for non-agricultural products in the Member States, even where a *sui generis* GI system is available. Furthermore, the definitions, registration requirements and scope of protection vary significantly.³⁹ As a result, producers who want to register a GI for non-agricultural products have to deal with local requirements whenever such a possibility exists, or to rely on other tools, such as trademark protection, international treaties or litigation.

³⁹ For a detailed analysis, see 'Study on GI protection for non-agricultural products in the internal market', European Commission, 2013.

2. Impacts of the absence of EU intervention

As there is no EU-wide protection of GI for non-agricultural products, this Cost of Non-Europe report has identified and quantified the cost of non-regulation. The studied impacts are the economic, social and environmental effects observed as a result of the absence of an EU GI protection system for non-agricultural products.⁴⁰

In assessing the potential economic effects of EU GI protection for non-agricultural products, the authors of the study selected two specific issues – trade and employment – and mainly relied on earlier work dealing with agricultural GIs. Regarding social and environmental impacts, qualitative conclusions were drawn from the existing literature.

The theoretical basis for the benefits offered by GIs is their use as distinctive or quality signs. These have to do with information theory and with models dealing with reputation.⁴¹

Asymmetry of information and information theory

As GIs are distinctive signs, economic theory considers them a potential instrument for resolving the market failure of asymmetry of information between producers and consumers. The problem of asymmetrical information stems from the fact that while producers know the qualities of their products, this may not necessarily be the case for consumers. Producers are therefore in a position of strength: as they alone know the true quality of their product, they may be tempted to behave unfairly. For consumers to be able to optimise their choices, they need more comprehensive and readily available information.

Asymmetrical information has consequences for consumers, but also for producers and the quality of supply. In a market where products (or services) are not uniform and quality differences are only known to producers, goods end up selling for the same price. The resulting situation is one where producers have no interest in supplying higher-quality items, and consumers expect to receive lower quality (see box). The outcome is lower quality overall. This phenomenon is known as 'adverse selection'.

The impact of asymmetry of information on the workings of the market is clear: the quality of total supply declines; higher-quality products are also driven out of the market, and some consumers are no longer able to satisfy their preferences. Producers of quality products suffer unfair competition from

Adverse selection and the Akerlof 'market for lemons', 1970

Assuming that a product is present in a market with products of varying quality, and if in a transaction only one of the parties (the producer) knows the product's level of quality in advance, the other party (the consumer) would anticipate getting inferior product quality (as a consequence of adverse selection). Because of the consumers' inability to assess the quality of the product in advance, the price that they would be willing to pay for the product would be the same, set somewhere between the high- and the low-quality price. At this price, nevertheless, only low-quality products are exchanged, which lowers the overall quality sold. This phenomenon is known as 'adverse selection'.

⁴⁰ As observed in D. Barjolle, M. Paus and A. O. Perret, 'Impacts of geographical indications-review of methods and empirical evidences', *2009 Conference, August 16-22, 2009, Beijing, China* (No 51737), International Association of Agricultural Economists, 2009.

⁴¹ [Appellations of origin and GIs in OECD member countries: Economic and legal implications](#), Working Party on Agricultural Policies and Markets of the Committee for Agriculture, Joint Working Party of the Committee for Agriculture and the Trade Committee, COM/AGR/APM/TD/WP (2000)15/FINAL, 2000, p. 7.

those who sell inferior products at the same price. This asymmetry of information between producers and consumers does indeed give rise to market failure. GIs could be an instrument that allows the producer to credibly signal to the consumer that their goods are of high quality or have some specific characteristics.

Possible responses to asymmetry of information: the theory of reputation

Shapiro⁴² suggests that a firm's decision to invest in developing quality products is dynamic: the returns from (current) investments in producing high-quality products occur in the future, following repeated purchases on account of the firm's reputation for high-quality products. It is when consumers learn about the reputation through past purchases, experience and other information channels, that it becomes economically meaningful for firms to invest in producing high-quality (reputable) products. In this sense, reputation aids to overcome the market failure associated with asymmetry of information.⁴³ However, the successful use of reputation may require that it be protected through a process that can be viewed as the 'institutionalisation of reputation'. This approach seeks to avoid the risk of free-riding on reputation (i.e. a product benefitting from being associated with a name that has a good reputation, while not matching the characteristics the name is associated with).⁴⁴ Distinctive signs, such as GIs, can achieve this by institutionalising the relationship between the product and the region and/or tradition through the use of legal instruments that prevent the misappropriation of benefits. GIs can thus be viewed as the result of a process, whereby reputation is institutionalised in order to solve problems that arise from information asymmetry and free-riding on reputation. This highlights a fundamental feature of GI protection, i.e. that it functions both as a consumer protection measure (through addressing information asymmetries and quality) and a producer protection measure (through its role in protecting reputation as an asset).⁴⁵

Improved market access through differentiation and value creation

Apart from their role in overcoming the detrimental effects of information asymmetries and free-riding on reputation, GIs also reflect specific characteristics and values associated with a region. The resources of the region (landscape, culture, history and local *savoir faire*) become embedded in the origin-labelled product, thereby synthesising the territorial attributes in the product name. It is these territorial characteristics as an attribute that translate into improved market access for products bearing a GI, through the development of a sustainable competitive advantage. Products that possess territorial characteristics can be seen as a way to differentiate supply and to create 'niche' markets.

Product differentiation is a classical strategy in the economic value-creation process, which is well known in marketing theories. The main focus in this strategy is on setting the price of a product whose specific and unique quality sets it apart from standard products, on the basis of a 'niche' market and not on the basis of the initial market, thereby achieving market equilibrium.⁴⁶ A study by the OECD⁴⁷ identified a number of factors that influence the success of small rural enterprises

⁴² C. Shapiro, 'Consumer information, product quality and seller reputation', *Bell Journal of Economics*, 1982.

⁴³ J. E. Stiglitz, 'Imperfect Information in the Product Market', *Handbook of Industrial Organization* Vol. 1; and J. Tirole, *The Theory of Industrial Organization*, MIT Press, Cambridge, 1988.

⁴⁴ G. Beletti, 'Origin Labelled Products, Reputation and Heterogeneity of Firms, The Socio-Economics of Origin Labelled Products', in *Agro-Food Supply Chains: Spatial, Institutional and Co-Ordination Aspects*, B. Sylvander, D. Barjolle and F. Arfini (eds.), 2000, Series Actes et Communications, 17, INRA, Paris, 1999.

⁴⁵ Appellations of origin and GIs in OECD member countries: Economic and legal implications, op. cit.

⁴⁶ See generally, E. H. Chamberlin, *The Theory of Monopolistic Competition*, Harvard University Press, 1933.

⁴⁷ Appellations of origin and GIs in OECD member countries: Economic and legal implications, op.cit.

targeting niche markets. Two main factors – market access and differentiation – emerged as the most influential. The study found that one approach to addressing these factors is to work collectively in order to develop a competitive advantage. This approach is well accommodated within an origin-labelled valorisation strategy, confirming the economic rationale for protecting geographical indications.

Several recent research findings highlight a trend involving increased consumer demand for quality products.⁴⁸ This trend allows producers to develop inventive strategies to more easily carve out a niche for themselves on the market whenever consumers state their preferences and their willingness to pay a premium for products that have a strong identity and use good-quality signals.⁴⁹

As such, the economic value of GIs is to a large extent based on the economics of differentiation and niche marketing.

Various studies allude to the fact that the collective monopolies that result from GI protection enable producers to capture a premium.⁵⁰ A study prepared for the Commission⁵¹ found that on average, GI products are sold at prices that are 2.23 times higher than those of non-GI products.⁵² The size of the premium is dependent on a number of factors, such as market size, degree of competition with substitutes, consumer perceptions about the linkage of an indication with product attributes, and demand elasticity.⁵³ However, in all instances the premium seems to favour authentic and distinctive products linked to a specific area.⁵⁴

2.1. Economic impact

This CoNE report quantifies some potential effects of the introduction of an EU GI protection scheme for non-agricultural products, focusing on the effects on trade (value of Member States' exports) and employment (jobs created or job losses avoided). The report relies on evidence from analysis done on GIs on agricultural products, where more literature is available. It has to be borne in mind that the report relies on the basic assumption that exports and employment respond to GI introduction in both macro-sectors in a comparable way.

2.1.1. Impacts on trade

Background

GIs are expected to have an impact on the EU's internal and external trade. They work as quality signals and convey reputation effects to consumers; this is particularly important after the recent

⁴⁸ D. Barjolle, P. Damary and B. Schaer, 'Certification Schemes and Sustainable Rural Development: Analytical Framework for Assessment of Impacts', *Sviluppo Locale* anno XV, 2012; For the motivations behind consumer preferences in Europe, see also D. Giovannucci, T. Josling, W. Kerr, B. O'Connor and M. Yeung, 'Guide to Geographical Indications: Linking Products and their Origins', *International Trade Centre*, 2009.

⁴⁹ D. Barjolle, 'Geographical Indications and protected designations of origin intellectual property tools for rural development objectives', *Research Handbook on Intellectual Property and Geographical Indications*, 2016.

⁵⁰ F. Thiedig and B. Sylvander, '[Welcome to the club? – An economical approach to geographical indications in the European Union](#)', *Agrarwirtschaft*, 49(12), , 2000, pp. 428-437.

⁵¹ AND International study, op.cit.

⁵² Value premium is defined as the price difference for the same quantity sold: the sum of GI volumes at GI prices minus the sum of GI volumes at non-GI prices.

⁵³ C. Correa, 'Protection of Geographical Indications in Caricom Countries', 2002.

⁵⁴ *ibid.*

waves of globalisation, since consumers are progressively less aware of the quality and origin of the products they find on the market.⁵⁵

Another strand of literature underlines the possible competition-decreasing effect, by modelling GIs as non-tariff barriers:⁵⁶ these papers point to an import-reducing effect of GIs whenever domestic firms are quality-certified. However, as pointed out by Raimondi et al.,⁵⁷ they do not take into account the consumer surplus increase due to a reduction in information asymmetries. Josling (2006), who puts the issue in the perspective of the transatlantic debate on GIs, summarises the trade-off between competition-reducing and consumer-protection effects. He argues that trade impacts are mainly a direct consequence of the ability of domestic policy to provide the appropriate level of protection and information, by taking into account that GIs are both consumer-protection devices and tools for producers to intervene on market power structures. Therefore, the impact of GIs on trade depends on consumers' willingness to pay for product information and on the degree of market power both before and after GI introduction.

The trade-creation effect of GIs is also related to the literature on quality and trade, which points out that, if the regulatory policy effectively induces a process of quality upgrading, then the firms adopting the policy will export more and will charge higher export unit values (Raimondi et al., 2019).

Moreover, GIs have been a major issue in international trade negotiations at the multilateral and the bilateral level. They can facilitate trade agreements, since numerous disputes involving the use of geographical denominations have impeded or may impede trade⁵⁸ because of the difficulty of reaching an agreement on the protection and use of product names.

The available evidence drawn from a small sample of current and potential non-agricultural GIs⁵⁹ reveals that the biggest market for these products is the domestic one: out of the 90 products analysed, about 72 % have 50 % of sales or more on the domestic market. At the same time, the great majority of products (84 %) have an external market, either European or international: only 16 % of the analysed products are exclusively sold on the domestic market.

⁵⁵ S. Marette, R. Clemens and B. Babcock, 'Recent international and regulatory decisions about geographical indications', *Agribusiness*, 24, 2008, pp. 453-472.

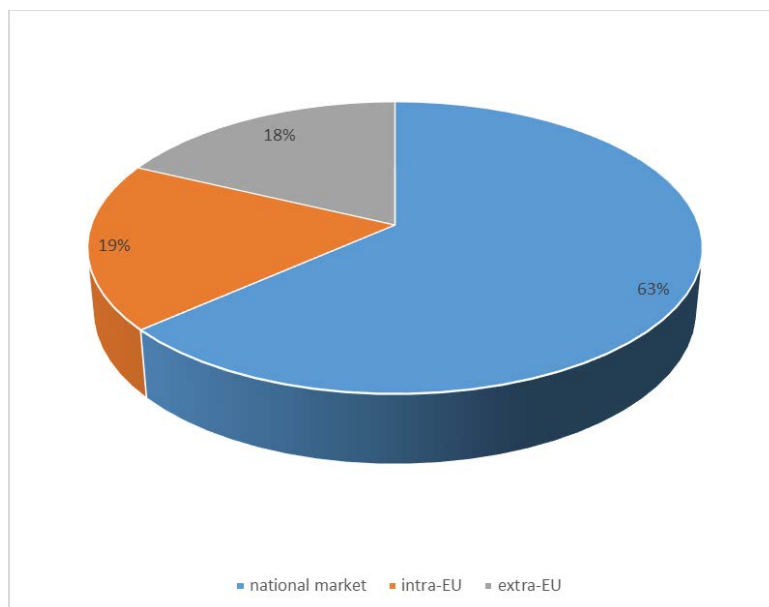
⁵⁶ C. Chambolle and E. Giraud-Heraud, 'Certification of origin as a non-tariff barrier', *Review of International Economics*, 13(3), 2005, pp. 461-471; and J. Abel-Koch, '[Endogenous Trade Policy with Heterogeneous Firms](#)', WP1306, Gutenberg School of Management and Economics, Johannes Gutenberg-Universität Mainz, 2013.

⁵⁷ V. Raimondi, C. Falco, D. Curzi and A. Olper, '[Trade Effects of Geographical Indication Policy: the EU Case](#)', *Journal of Agricultural Economics*, forthcoming, 2019.

⁵⁸ Appellations of origin and GIs in OECD member countries: Economic and legal implications, op.cit., p. 22.

⁵⁹ oriGIn, Insight Consulting and REDD, '[Study on geographical indications protection for non-agricultural products in the internal market](#)', prepared on behalf of the European Commission, 2013.

Figure 1: Average share sold on the domestic/intra EU/extra EU market for a sample of non-agricultural GIs



Data source: [oriGIn, Insight Consulting and REDD study for the European Commission](#), 2013 (data from 2012).

Empirical evidence on the EU GI policy in the agricultural and the wine sector

Focusing on the EU agricultural and wine sectors, the existing evidence overall indicates that GIs have a trade expansion effect. However, the result may change depending on the scenario considered (type of protection, presence of GIs in the importing and/or exporting countries, model used).

Table 3: Summary of the effects on trade of the EU scheme protecting agricultural GIs, as measured by existing literature

Paper	Products	Countries	Main results: Effects of GI registration in EU
Agostino and Trivieri (2014 and 2016)	Wine	France, Spain, Italy,	Higher probability of exporting registered wines; higher value of exports for registered wines, especially through price premium (the effect on quantities is ambiguous)
Duveleix-Treguer et al. (2015)	Cheese	France	Higher probability of exporting and higher value of exports for PDO cheese; the price effect is weaker
Sorgho and Larue (2014)	Agricultural products	EU-27 (only intra-EU trade)	Negative or no effect of GIs on trade when only exporting country has GIs; positive effect on trade if importing country or both countries have GIs
Raimondi et al. (2019)	Agricultural products	EU-15	Positive effect of GIs on intra-EU trade where the exporting country or both countries have GIs Trade-reducing effect when GIs exist only in the importing country Positive effects on extra EU exports, ambiguous effect on extra EU import

Two papers by Agostino and Trivieri (2014⁶⁰ and 2016⁶¹) focus on wine exports from the three major EU producers: France, Italy and Spain. They compare quality wines from specified regions (QWSR) to table wines and find greater export values of the former by about 95 % (while the same increase is not observed if only looking at quantities, meaning that prices play a major role).⁶² The probability of trading is also higher for product lines with protected wines.

Another sectorial study carried on by Duveleix-Treguer et al. (2015)⁶³ on French cheese exports, found that GI certification increases both the probability of exporting ('extensive margin') and the value of exports ('intensive margin'). The unit value of exports is higher for GI protected cheese, but only for intra-EU trade.

Two main studies performed a multi-sector analysis. The first (Sorgho and Larue, 2014)⁶⁴ identified the impact of an additional GI registered on the ratio between imports and internal trade for each EU-27 Member State, focusing only on intra-EU trade. The study assessed the impact at the aggregate agricultural level and distinguished between three scenarios:

- when only the exporting country has GIs;
- when only the importing country has GIs;
- when both have GIs.⁶⁵

In the first case, the study found either a negative or a zero effect on trade, depending on the test used. In the second and the third case, it found a positive effect on trade of about 0.75 %. The study also found an indirect trade-diminishing effect of GIs resulting from an increase in the 'thickness' of borders,⁶⁶ though small if compared to other factors and to the positive effect on trade found in the second and the third case.

The results of the second main study (Raimondi et al., 2019⁶⁷) conflicted with those of the first one for the cases where either the exporting country or the importing one does not have GIs. On the contrary, its results coincided with those of the first study for the case where both countries have GIs. The second study found a trade-expansion effect in cases where the exporting country has GIs (regardless of the presence of GIs in the importing country), and a trade-reducing effect when GIs exist only in the importing country. When GIs in a specific product line exist in the exporting country only, there is a major effect at the extensive margin, meaning that new trade routes are opened (new varieties are traded). When GIs exist in both exporting and importing countries, their main effect is on the intensive margin (in other words, they produce an increase in the value of trade in product

⁶⁰ M. Agostino and F. Trivieri, '[Geographical indication and wine exports. An empirical investigation considering the major European producers](#)', *Food Policy* 46:22–36, 2014.

⁶¹ M. Agostino and F. Trivieri, '[European Wines Exports Towards Emerging Markets. The Role of Geographical Identity](#)', *Journal of Industry, Competition and Trade*, 16(2), 2016, pp. 233-256.

⁶² The value of exports of quality wines is 95% higher than for table wines, but for some importer countries, value can reach a 300 % increase; quantity (volumes of export) is about 19 % lower (it is positive only for some high-income importer countries).

⁶³ S. Duveleix-Treguer, C. Emlinger, C. Gaigné and K. Latouche, '[Quality and export performance: Evidence from cheese industry](#)', Paper presented at the 145th EAAE Seminar, Parma, Italy, 2015.

⁶⁴ Z. Sorgho and B. Larue, '[Geographical indication regulation and intra-trade in the European Union](#)', *Agricultural economics*, 45(S1), 2014, pp. 1-12.

⁶⁵ The authors present several models that lead to quite different results. They then select the random effect model, which brings about the results mentioned here.

⁶⁶ This is the residual negative effect (the constant) on bilateral trade after it has been controlled for a number of factors potentially affecting trade.

⁶⁷ Raimondi et al., 2019, op.cit.

lines that were already being traded before the GIs were introduced) s. A trade-reducing effect is found when GIs in the analysed product line are produced only in the importing country, especially due to a decrease in the value of already traded goods and to a much lesser extent to a reduction in traded goods. The overall effects⁶⁸ are:

- an increase of about 1 % in bilateral trade where only the exporter has GIs;
- a similar decrease in bilateral trade (1.6 %) where only the importer has GIs;
- an increase of about 0.24 % in bilateral trade when both countries have GIs in a product line.

The impact on the unit values of exports were also calculated:⁶⁹ they are expected to increase between 0.4 % and 0.7 % if both countries have GIs or only the exporter does, while they are expected to decrease by 0.3 % if only the importer has GIs. It seems therefore that, if the aim of the GI policy is to promote quality differentiation in the country of origin, this policy can be considered effective. It has to be noted that all estimates aim to establish the average effect in the long run (over almost 20 years of implementation of the policy).

Table 4: Effect of EU agricultural GIs on intra-EU trade – summary of the main results

		Exporter country	
		Has GIs	Does not have GIs
Importer country	Has GIs	Positive effect ⁷⁰	Different effect depending on the study ⁷¹
	Does not have GIs	Different effect depending on the study ⁷²	N/A

Data source: Sorgho and Larue (2014) and Raimondi et al. (2019).

Raimondi et al. also analyse extra-EU trade. The different scenarios are identified again by the presence/absence of GIs in the partner country (extra-EU, this time); in this case, nevertheless, the presence/absence of GIs is not identified at the sectoral level, and it simply gives the information if GIs do or do not exist in the non-EU partner country. The addition of a new GI in EU countries increases exports towards non-EU countries by 1.96 % if the extra EU country does not have a GI policy, and by 2.88 % if it has one. In the first case, both new exports and an increase in volume of products already exported play a role; in the second case, there is an extra effect on the number of varieties traded, but no additional effect on quantity traded in already existing product lines. When looking at the EU as an importer, the introduction of GIs reduces EU imports from the third country (but this last result is sensitive to the estimation method applied⁷³)

The overall conclusion is that the introduction of GIs in the EU has a trade-expansion effect when GIs are registered in both importer and exporter countries in intra-EU trade. However, the effect is

⁶⁸ Calculated at a HS-2-digits level of disaggregation.

⁶⁹ Calculated with products disaggregated at the HS-6-digits level.

⁷⁰ Raimondi et al., 2019 (op.cit.) and Z. Sorgho and B. Larue, 2014 (op.cit.).

⁷¹ Negative effect in Raimondi et al., 2019 (op.cit.), and positive effect in Z. Sorgho and B. Larue, 2014 (op.cit.).

⁷² Positive effect in Raimondi et al., 2019 (op.cit.), and negative effect in Z. Sorgho and B. Larue, 2014 (op.cit.).

⁷³ Using a different methodology that more precisely tries to avoid biases due to possible reverse causality, the authors confirm the export-increasing effects, both intra- and extra-EU (and argue that their estimates may even underestimate the impact), while raising doubts about the robustness of the import-decreasing effects.

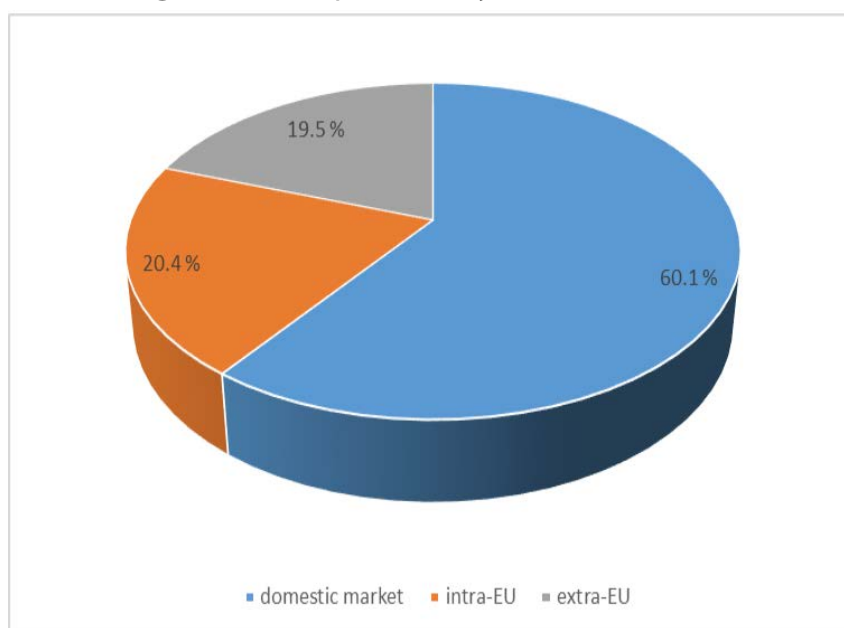
unclear when GIs are registered in just the exporter or the importer. Most recent evidence corroborates the idea that GIs have an export-increasing and an import-decreasing effect in the country where they are introduced. Still, it finds strong evidence for the export-increasing effects, while it does not always corroborate the import-decreasing ones (Raimondi et al., 2019). This is also the case with regard to extra-EU trade.

Expected effects of an EU-level protection of GIs for non-agricultural products

Most of the empirical literature mentioned above points in the direction of a trade-creation effect, even though it does not occur in all scenarios considered. This literature can be used to estimate the potential effect of an EU-level protection of GIs for non-agricultural products.

An underlying assumption of this approach is that the response of exports to the increase in number of registered GIs is the same in the non-agricultural sector as in the agricultural one. In support of this assumption, it has to be noted that agricultural and non-agricultural GIs share similar market characteristics in terms of shares of exports, according to two studies carried out on behalf of the Commission between 2012 and 2013. As showed in Figure 1 above, the selected sample of non-agricultural GIs has 63 % of its production sold on the domestic market, 19 % on the intra-EU market, and 18 % on the extra-EU market.⁷⁴ These shares are similar to the sales value shares of agricultural GIs by destination that can be found in a 2012 AND International study:⁷⁵ domestic market accounts for 60.1 %, intra-EU for 20.4 % and extra-EU for 19.5 %, as shown in Figure 2 below.

Figure 2: Sales value of agricultural GI products by destination (%)



Data source: AND International, 2012 study (op.cit.). Data from 2010.

According to the previously mentioned literature, the authors of the present report expect a trade-creation effect, both intra-EU and extra-EU. The magnitude of this effect is extrapolated by applying the results found in the abovementioned paper by Raimondi et al. (2019) to a dataset of potential registered GIs under an EU scheme. The selection of this paper instead of Sorgho and Larue's (2014)

⁷⁴ Own estimate of the authors of this report based on the 2013 oriGIIn, Insight Consulting and REDD study (op.cit.).

⁷⁵ AND International study, 2012, op.cit.

is due to the fact that it is more recent, uses data at a more disaggregated level (-S-2-digits and HS-6-digits, instead of the aggregate agri-food sector) and, by exploiting a broad dataset of trade and GI information between 1996 and 2014, it analyses the trade effects since the time when the registration of agricultural GIs was established at the EU level (Council Regulation (EEC) No 2081/92 of 14 July 1992).⁷⁶

Using data from the Organisation for an International Geographical Indication Network (oriGIn),⁷⁷ the Lisbon Agreement database⁷⁸ and national sources,⁷⁹ it is possible to estimate the number of GIs that are expected to be registered in each Member State and in each product category at the HS-2 digits level if an EU-level protection is introduced. They include both GIs currently registered under a national scheme and GIs that could potentially be protected under an EU scheme but have currently no specific protection: the sum of the two constitutes the upper bound; and only the 'potential' GIs constitute the lower bound of the estimate.⁸⁰

The data on export flows are then provided by the Eurostat COMEXT database and matched by country pair and sector with the GI database. The selected sectors are those that include 80 % of existing and potentially registered GIs. The selected product categories are shown in Table 5 below.

⁷⁶ Raimondi et al.'s 2019 paper focuses on the EU-15 in order to avoid trade shocks due to the enlargement process. The authors estimate the impact of the registration of one GI on the percentage change of the value of trade (number of varieties exchanges, i.e. the extensive margin, value, i.e. intensive margin, and the combination of the two, i.e. overall trade).

⁷⁷ <https://www.origin-gi.com/i-gi-origin-worldwide-gi-compilation-uk.html?start=120>

⁷⁸ https://www.wipo.int/cgi-lis/bool_srch5?ENG+17

⁷⁹ Austria: <https://www.patentamt.at/de/quicklinks/wiki/geografische-verbandsmarke/>; Czechia: <https://www.upv.cz/en/client-services/online-databases/database-of-geographic-denomination-and-appellation-of-origin/national-database.html>; Estonia: <https://www.epa.ee/en/databases/geographical-indications-databases>; France: <https://base-indications-geographiques.inpi.fr/fr/ig-homologues>; Germany: <http://www.gesetze-im-internet.de/solingenv/index.html>

⁸⁰ The reason why 'potential GIs' are considered lower bound is that it is reasonable to assume that the benefits of already registered GIs have at least partially been reaped via existing national frameworks, while the benefits possibly generated by a registration of the 'potential GIs' would be fully the outcome of EU action in the field.

Table 5: Number of non-agricultural GIs in the five main sectors

HS-2 digit product category	Number of potential GIs	Number of existing GIs	Total number of GIs	% of total
Chapter 69 – ceramic products	167	47	214	25 %
Chapter 25 – salt; sulphur; earths and stone; plastering materials, lime and cement	53	26	79	9 %
Chapter 58 – special woven fabrics; tufted textile fabrics; lace; tapestries; trimmings; embroidery	50	11	61	7 %
Chapter 70 – glass and glassware	37	8	45	5 %
Chapter 44 – wood and articles of wood; wood charcoal	42	2	44	5 %
Chapter 71 – natural or cultured pearls, precious or semi-precious stones, precious metals, metals clad with precious metal, and articles thereof; imitation jewellery; coin	30	5	35	4 %
Chapter 62 – articles of apparel and clothing accessories, not knitted or crocheted	27	1	28	3 %
Chapter 68 – articles of stone, plaster, cement, asbestos, mica or similar materials	22	0	22	3 %
Chapter 82 – tools, implements, cutlery, spoons and forks, of base metal; parts thereof of base metal	21	1	22	3 %
Chapter 24 – tobacco and manufactured tobacco substitutes	5	15	20	2 %
Chapter 51 – wool, fine or coarse animal hair; horsehair yarn and woven fabric	15	2	17	2 %
Chapter 92 – musical instruments; parts and accessories of such articles	16	1	17	2 %
Chapter 87 – vehicles other than railway or tramway rolling stock, and parts and accessories thereof	16	0	16	2 %
Chapter 95 – toys, games and sports requisites; parts and accessories thereof	16	0	16	2 %
Chapter 42 – articles of leather; saddlery and harness; travel goods, handbags and similar containers; articles of animal gut (other than silkworm gut)	15	0	15	2 %
Chapter 46 – manufactures of straw, of esparto or of other plaiting materials; basketware and wickerwork	14	0	14	2 %
Chapter 73 – articles of iron or steel	13	1	14	2 %

Data source: oriGIn data, Lisbon Agreement database and national sources.

Using the results of the paper by Raimondi et al. (2019), it is possible to derive expectations on the elasticity of trade following an increase in the number of GIs.⁸¹

The results presented below have to be interpreted as the long-term effect of a GI protection policy: Raimondi et al. estimated the elasticities over 18 years (1996-2014). They do not have to be interpreted as the immediate effect of the introduction of the identified GIs, but as the effects that may accumulate over a couple of decades after the policy has started being applied.

The detailed calculation, together with some additional technical notes and assumptions, is provided in Annex I to this report.

Intra-EU trade

Focusing on intra-EU trade, Raimondi et al. (2019) identify three possible cases, each illustrating a different impact produced by the introduction of a new GI: i) where, in a specific sector, the exporter has GIs but the importer does not; ii) where the importer has GIs but the exporter does not; and iii) where both have GIs. The authors establish the presence of a trade-creating effect in the first and third case, and a trade-reducing effect in the second case.

When selecting the appropriate scenario for each set of sector and country pair, and applying the expected effect resulting from an additional registered GI as described in the paper by Raimondi et al. (2019), it appears that overall, non-agricultural GIs are expected to have a trade-creating effect, although not homogeneously spread across sectors. The figures disaggregated by sector are shown in Table 6.

⁸¹ The increase in the number of GIs in each EU Member State was measured every year for each product category over the 1996-2014 period.

Table 6: Expected effect on intra-EU trade of the certification of non-agricultural GIs

HS-2 Digit Product Category	Only potential GIs		Total number of GIs	
	Change in value of exports	Change relative to initial (%)	Change in value of exports	Change relative to initial (%)
Chapter 24 – tobacco and manufactured tobacco substitutes	-403 032 419	-3.26 %	1 326 522 493	10.74 %
Chapter 25 – salt; sulphur; earths and stone; plastering materials, lime and cement	2 773 818 333	35.19 %	4 274 466 857	54.22 %
Chapter 42 – articles of leather; saddlery and harness; travel goods, handbags and similar containers; articles of animal gut (other than silkworm gut)	114 664 757	0.79 %	114 664 757	0.79 %
Chapter 44 – wood and articles of wood; wood charcoal	6 079 156 051	16.74 %	6 478 394 795	17.84 %
Chapter 46 – manufactures of straw, of esparto or of other plaiting materials; basketware and wickerwork	24 012 969	12.00 %	24 012 969	12.00 %
Chapter 51 – wool, fine or coarse animal hair; horsehair yarn and woven fabric	76 094 163	2.63 %	88 609 293	3.06 %
Chapter 58 – special woven fabrics; tufted textile fabrics; lace; tapestries; trimmings; embroidery	421 556 912	25.02 %	552 686 617	32.81 %
Chapter 62 – articles of apparel and clothing accessories, not knitted or crocheted	3 075 121 193	6.84 %	2 135 570 774	4.75 %
Chapter 68 – articles of stone, plaster, cement, asbestos, mica or similar materials	1 073 776 763	8.24 %	1 073 776 763	8.24 %
Chapter 69 - ceramic products	15 312 504 970	138.35 %	22 275 119 246	201.26 %
Chapter 70 - glass and glassware	3 545 795 911	17.83 %	4 800 071 469	24.13 %
Chapter 71 – natural or cultured pearls, precious or semi-precious stones, precious metals, metals clad with precious metal, and articles thereof; imitation jewellery; coin	2 593 329 920	10.08 %	3 688 926 716	14.33 %
Chapter 73 – articles of iron or steel	1 622 120 550	2.03 %	2 015 795 319	2.52 %
Chapter 82 – tools, implements, cutlery, spoons and forks, of base metal; parts thereof of base metal	381 637 712	2.46 %	445 402 091	2.87 %
Chapter 87 – vehicles other than railway or tramway rolling stock, and parts and accessories thereof	1 021 303 456	0.23 %	1 021 303 456	0.23 %
Chapter 92 – musical instruments; parts and accessories of such articles	-14 321 314	-1.15 %	7 199 908	0.58 %
Chapter 95 – toys, games and sports requisites; parts and accessories thereof	-99 960 462	-0.42 %	-99 960 462	-0.42 %
<i>Sum</i>	<i>37 597 579 467</i>	<i>4.94 %</i>	<i>50 222 563 063</i>	<i>6.60 %</i>

Data source: Raimondi et al., 2019, Eurostat, COMEXT database, Origin data, Lisbon Agreement database and national sources.

The expected change in trade ranges between a decline of 3.26 % (tobacco products) and an increase of 200 % (ceramics sector, which alone is expected to have a fourth of all GIs) as compared to 2018 values. The differences are due to both the expected number of protected GIs and the number of cases that fall under each of the three above-mentioned scenarios. Strong positive effects are forecasted, for example, where several GIs are expected to be registered and most of these are in exporting Member States (or in importing Member States, but under the condition that the exporter also has GIs in the same product line). The outcome for the ceramic sector is quite big and clearly above the average and this may raise suspicions that it is an outlier; still, the trade-creation effect persists even without considering this sector. Overall trade in the 17 sectors is expected to increase by between €37.6 billion and €50 billion in bilateral exports after about 20 years of implementation, or between 4.9 % and 6.6 % of exports in these same sectors in 2018.

As explained in Annex I to this report, adopting an alternative measure for bilateral exports leads to bigger an intra-EU trade-creation effect (up to 15 % of 2018 export values). It is important to mention that this analysis only focuses on 17 selected sectors (those including 80 % of existing and potential GIs), while no conclusion can be drawn concerning other sectors. Moreover, it is impossible to establish if this trade-creation effect is due to an increase in trade of the GI products themselves or of the non-GI products belonging to the same sector.

Extra-EU trade

An EU scheme for protecting the GIs of non-agricultural products could allow the EU to include such products in future trade agreements, thus increasing their international recognition.

While this report does not quantify the possible change in extra-EU trade, it is possible to establish the main trends from the available literature on agricultural GIs. At the extra-EU level, Raimondi et al. identify two possible scenarios: one, where the third country partner has GIs, and another, where it does not.⁸² Below are some examples of non-EU countries having a non-agricultural GI policy in place:⁸³

- Algeria
- Bosnia and Herzegovina
- Brazil
- Chile
- Colombia
- Costa Rica
- India
- Israel
- Morocco
- Norway
- Peru
- Russia
- Switzerland
- Turkey

⁸² In this case it is impossible to identify if GIs exist in a specific product line, as the information at hand only says whether or not there is a GI policy in place.

⁸³ [OriGIn, Insight Consulting and REDD study for the European Commission](#), 2013 and WIPO, [Contracting Parties to the Lisbon Agreement](#).

Raimondi's paper predicts an export-increasing effect and an import-decreasing one as a result of the introduction of GIs in the EU; however, as for intra-EU trade, results on the import side are less robust to alternative estimation methods. The production agricultural products with GI protection for an average EU country induces an increase in both the probability for export to extra-EU countries and in the volume of trade for products already traded. On the contrary, such production decreases imports from extra-EU countries, especially with regard to the probability of trading new products in sectors where EU countries introduce GIs. In a more disaggregated analysis,⁸⁴ it appears that this negative effect on imports to the EU is substantially mitigated in the cases where third countries have a GI policy in place.

Focusing on EU exports, the expected effects are bigger in extra-EU trade than in intra-EU trade. However, carefulness is needed in their interpretation, since the possible import-decreasing effect in importing third countries due to the presence of GIs in the same product line is not observed.

2.1.2. Impacts on employment

Background

According to the above-mentioned OriGIn, Insight Consulting and REDD study prepared for the Commission in 2013,⁸⁵ it is worth paying attention to the impact in terms of employment generated by enterprises that produce non-agricultural GIs. The approximately 90 enterprises that provide employment data in this study employ 160 579 workers, which corresponds to an average full-time employment per sector of 1 784 workers. The sector that employs the most people is the watch sector, with almost 50 000 employees. The authors extrapolate an estimated overall number of jobs that can currently be attributed to non-agricultural GI production. Based on the assumption that the surveyed enterprises represent 10 % of all GIs present in the EU, they estimate that non-agricultural GIs directly contribute to 1.6 million full-time-equivalent jobs. By adding the jobs created by indirect effects,⁸⁶ their estimate gets to about 4 million jobs, i.e. 1.88 % of total employment in the EU.⁸⁷

Moreover, the same report underlines that non-agricultural GIs can play an important role in regions where poverty and unemployment are relatively high: two thirds of the regions where non-agricultural GI products are produced have poverty and unemployment rates above 20 %, ⁸⁸ which reinforces the idea that GIs can contribute to maintain jobs.

This chapter focuses on the contribution that an EU protection policy is expected to make to employment, measured at the regional level. As mentioned by Raimondi et al. (2018),⁸⁹ there is not yet much evidence in this field.

The expected effects derive from the idea that GIs provide information that is valued by consumers. This can, in the appropriate governance framework, support commercial success since it allows consumers to properly identify the quality and intrinsic characteristics of a product. This is why the welfare of both consumers and producers is expected to increase and this may translate into greater

⁸⁴ At the HS-6-digits instead of HS-2-digits.

⁸⁵ [OriGIn, Insight Consulting and REDD study for the European Commission](#), 2013.

⁸⁶ These are jobs that develop thanks to increased employment in the relevant sector where there are GIs.

⁸⁷ At 2010 data.

⁸⁸ The cases mentioned in the study are the Binche Lace in Belgium, the Black Clay of Olho Marino and the Wool Blankets of Mertola in Portugal.

⁸⁹ V. Raimondi, D. Curzi, F. Arfini, A. Olper and M. Aghabeygi, '[Evaluating Socio-Economic Impacts of PDO on Rural Areas](#)', No 2116-2018-5011, 2018.

employment for GI producers. Moreover, as GIs define the geographical area of a product, this means that jobs related to its production cannot be moved elsewhere.

Empirical evidence on EU GI policy in the agricultural and the wine sector

A number of studies address the territorial impact of agricultural GIs and most of them find a positive impact on employment. They also establish multiple other positive effects, such as business stabilisation, higher resistance to price falls during shocks, a greater ability of employers to ensure a basic remuneration, and a greater survival rate among GI producers⁹⁰ compared to non-GI producers.⁹¹

Table 7: Summary of effects of EU agricultural GIs on employment

Paper	Products	Countries	Main results: effect of GI registration in EU
De Roest and Menghi (2000)	Parmigiano Reggiano	Italy	The production of Parmigiano Reggiano doubles employment on dairy farm
Gerz and Dupont (2006)	Comté cheese	France	Regional labour increases Higher job quality
Bouamra-Mechemache and Chaaban (2010)	Cheese	France	Regional labour increases thanks to an increase in number of firms
Raimondi et al. (2018)	Agricultural products	France, Italy and Spain	Increase in employment at the regional level in all three countries and all sectors Increase in productivity only in Spain

Data source: the cited literature.

De Roest and Menghi (2000)⁹² argue that Parmigiano Reggiano production has a positive impact on employment compared to other non-GI dairy value chains. Two studies on French cheese⁹³ report an increase in regional labour and a positive territorial impact in terms of employment, as reported by Cei;⁹⁴ in the case of the Comté supply chain, a job quality increase is also observed.

Thus far, a 2018 paper by Raimondi, Curzi, Arfini, Olper and Aghabeygi⁹⁵ has been the only attempt to examine the impact of agricultural GIs on employment in a broad quantitative framework. It estimates the average impact of an additional GI registered in a NUTS3-level region on the relative

⁹⁰ Inter alia, C. Bontemps, Z. Bouamra-Mechemache, M. Simioni, and C. Weiss, 'Quality labels and firm survival: Some first empirical evidence', *European Review of Agricultural Economics*, 2013.

⁹¹ As reported by L. Cei, E. Defrancesco, and G. Stefani, '[From Geographical Indications to Rural Development: A Review of the Economic Effects of European Union Policy](#)', *Sustainability*, 10, 2018.

⁹² K. de Roest, A. Menghi, '[Reconsidering 'Traditional' Food: The Case of Parmigiano Reggiano Cheese](#)', *Sociologia Ruralis* 2000, 40, pp. 439-451.

⁹³ Z. Bouamra-Mechemache and J. Chaaban, 'Is the Protected Designation of Origin (PDO) Policy Successful in Sustaining Rural Employment?', *Proceedings of the 116th EAAE-SYAL Seminar Spatial Dynamics in Agri-food Systems*, Parma, Italy, 27–30 October 2010; and A. Gerz and F. Dupont, 'Comté cheese in France: Impact of a geographical indication on rural development', *In Origin-Based Products: Lessons for Pro-Poor Market Development*, P. van de Kop, D. Sautier, A. Gerz, *Bulletin: Amsterdam*, The Netherlands, 2006, pp. 75-87.

⁹⁴ L. Cei, E. Defrancesco and G. Stefani, '[From Geographical Indications to Rural Development: A Review of the Economic Effects of European Union Policy](#)', *Sustainability*, 10, 2018.

⁹⁵ V. Raimondi, D. Curzi, F. Arfini, A. Olper and M. Aghabeygi 2018, op.cit.

change in employment and in productivity, using data for three countries – France, Italy and Spain – for the 1993-2014 period. While the effect on productivity is not clearly pronounced (a positive effect of GI registration on local productivity is only observed in Spain), the effect on employment⁹⁶ is positive for the entire sample, for the individual Member States, and for each of the sectors (dairy, fruit and vegetables, meat and the 'other' category comprising oil, fish and pasta).

To assess the impact of agricultural GIs on agricultural employment and manufacturing, the paper uses a dynamic model allowing to measure both the short-run and the long-run effect. In the case of the short-run effect, an increase by 10 % in the number of GIs induces an employment growth of 0.08 % in agriculture and 0.02 % in the manufacturing sector. The long-run effect is substantially greater (2.6 % and 0.3 % respectively).

As the authors of the paper underline, the average change in employment in their sample is negative, meaning that GIs have helped counter employment loss, which is consistent with the potential effect mentioned above: a reduction in employment loss in areas where job opportunities are shrinking. This impact is observed in all sectors analysed, and is especially strong in fruit and vegetables and in the 'other' category (oil, fish, and pasta), where the addition of one GI increases employment with about 0.45 % and 0.32 %. The overall result is that agricultural GIs do create job opportunities in rural areas, although to an extent that depends on the sector.

Expected effects of EU-level protection of GIs for non-agricultural products

The potential effect of the introduction of EU-level protection on employment is estimated on the basis of the abovementioned 2018 paper by Raimondi et al.,⁹⁷ which measures the impact of agricultural GIs on employment at the regional level. Details of the calculations used in this report are presented in Annex II.

The present report estimates the effect on employment on the basis of the number of GIs that are expected to be registered if an EU-level protection is introduced. This is established with the help of data from oriGIn,⁹⁸ the Lisbon Agreement database⁹⁹ and national sources concerning existing protection,¹⁰⁰ as for the estimation on the trade effect. Dividing the number of expected GIs by the number of NUTS 3 regions in the EU-28 gives the average number of GIs per region (which, of course, masks a wide variation across regions). As for the trade estimates, a lower bound and an upper bound are calculated: the former is the number of GIs that are considered potentially certifiable but are currently not registered under any national law, while the latter is the sum between these GIs and the GIs that are currently protected under some national system. Table 8 below gives the values associated with the two bounds.

⁹⁶ The authors estimate the average regional-level impact that an additionally registered GI has on regional employment growth, measured as the deviation from the growth trend of the region in the absence of GIs.

⁹⁷ Raimondi et al., 2018, op.cit.

⁹⁸ <https://www.origin-gi.com/i-gi-origin-worldwide-gi-compilation-uk.html?start=120>

⁹⁹ https://www.wipo.int/cgi-lis/bool_srch5?ENG+17

¹⁰⁰ Austria: <https://www.patentamt.at/de/quicklinks/wiki/geografische-verbandsmarke/>; Czechia: <https://www.upv.cz/en/client-services/online-databases/database-of-geographic-denomination-and-appellation-of-origin/national-database.html>; Estonia: <https://www.epa.ee/en/databases/geographical-indications-databases/>; France: <https://base-indications-geographiques.inpi.fr/fr/ig-homologues/>; Germany: <http://www.gesetze-im-internet.de/solingenv/index.html>

Table 8: Number of non-agricultural GIs and average per NUTS 3 region¹⁰¹

	Number of GIs	Average number of expected GIs per region
Potential GIs (lower bound)	720	0.52
Total GIs (upper bound)	856	0.62

Data source: oriGIn data, Lisbon Agreement database and national sources.

The relative change in employment that may be expected per region, using the estimated effect on employment found by Raimondi et al., is illustrated in Table 9.

Table 9: Expected percentage change in employment per NUTS 3 region due to the expected average number of non-agricultural GIs at the regional level

	Effect on primary producers
Potential GIs (lower bound)	0.12 %
Total GIs (upper bound)	0.14 %

Data source: Raimondi et al. (2018), oriGIn data, Lisbon Agreement database and national sources.

Translating these figures into the number of jobs per region (on average) and then aggregating them at the EU-28 level reveals the indicative cumulative impact on employment, ranging between 284 000 and 338 000 additional jobs (see Table 10).

Table 10: Expected change in employment due to the expected average number of non-agricultural GIs (cumulated affect at EU-28 level)

	Effect on primary producers
Potential GIs (lower bound)	283 956
Total GIs (upper bound)	337 592

Data source: Raimondi et al. (2018), oriGIn data, Lisbon Agreement database and national sources.

These estimates should be considered as an upper bound, since they do not take into account the cross-regional effects (the estimates in the present report do not capture any potential negative effects that registering a GI can have on competing producers in other regions). Cross-regional effect on competitors can be an important phenomenon, since, according to the abovementioned 2013 oriGIn, Insight Consulting and REDD study,¹⁰² most GI producers face competition (about 55 % of the study sample), while only a minority declare operating in a market with no competition (11.8 % of the study sample).

¹⁰¹ Number of NUTS 3 regions in EU-28: 1 375.

¹⁰² [oriGIn, Insight Consulting and REDD study for the European Commission](#), 2013, op.cit.

2.2. Social and environmental impacts

2.2.1. Quality-signalling in support of consumer and producer welfare

The introduction of GIs for non-agricultural products can have impacts on the welfare of both consumers and producers. The potential welfare effects of non-agricultural GIs are addressed in the theoretical economic literature. Table 11 gives an overview of studies that analyse the welfare impact of GIs. Although these studies do not quantify the impact of the introduction of GIs for non-agricultural products, they yield valuable insights into its welfare effects. Most notably, they show that the welfare effects are diverse and not equally distributed. Moreover, the relative magnitude of the welfare effects depends on several aspects related to the market players.

Table 11: Summary of studies analysing the welfare impact of quality and origin-based labelling

Author	Method	Key assumption(s)	Findings
Zago and Pick (2004)	Vertical differentiation model	The market failure of asymmetric information is present by assumption and a GI will be an effective signal of quality.	<ul style="list-style-type: none"> • Consumers and GI producers are better off, while non-GI producers are worse off; • With low administrative costs, high quality differences and low production cost differences between GI and non-GI products, the total welfare impact of the regulation is positive; • The impact on consumer welfare is likely to be positive. However, it decreases with GI producer market power and is smaller if GI and non-GI products are similar.
Lence, Marette, Hayes and Foster (2007)	Simple model to assess welfare and market effects over three periods	Agricultural producers face the opportunity to invest into a differentiated GI product with certain fixed costs.	<ul style="list-style-type: none"> • GI as an IPR can induce investment into new technologies, since producers can effectively accrue the benefits; • The welfare effect of creating new GI products is strongly dependent on the ability of GI producers to control the level of supply; • The market power of GI producers should be significant enough to induce investment in technology, but limited enough to protect consumers.
Moschini, Menapace and Pick (2008)	Vertical differentiation model	<ul style="list-style-type: none"> • GIs allow producers to accrue the benefits of high quality production; • The market is perfectly competitive, implying no producer surplus. 	<ul style="list-style-type: none"> • Without GI policy, only low-quality non-GI goods are provided on the market; • GIs prompt producers to collaborate and invest strategically in the production of a new high-quality good; • Consumers always benefit from the GI policy, as it enables new products to become available. <p>Producers are neither better nor worse off.</p>
Merel and Sexton (2012)	Vertical differentiation model	Produced GI goods can vary within a range of quality.	Producers may produce GI goods with a quality and price that are higher than

Author	Method	Key assumption(s)	Findings
			socially desirable, which harms consumer welfare.
Menapace and Moschini (2012)	Reputation model	GIs are modelled to coexist with other trademarks, where GIs link quality to a specific origin.	<ul style="list-style-type: none"> ○ GIs reduce the size of the reputation premium needed to support higher-quality goods in the market; ○ GIs lower the possibility for producers to cut costs and lower quality; ○ The effect of GIs on consumer welfare is always positive, because prices are lower; ○ The effect on producers' welfare could be negative if GIs are introduced after they build up a product's reputation.
Menapace and Moschini (2014)	Vertical differentiation model	<ul style="list-style-type: none"> ○ Producers of GI products and substitute products can engage in promotional activities; ○ GIs and advertising help consumers optimise their preferences. 	<ul style="list-style-type: none"> ○ Consumers benefit from a higher level of GI protection, because it gives valuable information; ○ GI producers profit from higher levels of GI protection, allowing them to draw attention to their higher-quality products; ○ Producers of substitute goods prefer an intermediate level of GI protection, since they indirectly profit from GI promotion. Consumers could attribute advertised quality to non-GI products; ○ Welfare is maximised at a less-than-maximum level of GI protection.
Desquilbet and Monier-Dilhan (2015)	Vertical differentiation model	GIs can imply a guarantee of origin but also a minimum quality standard	GIs are effective for producers if they guarantee the product origin; however, they do not necessarily imply a quality standard.

Data source: the cited literature.

In most models, the magnitude of the welfare gains crucially depends on three factors:

- administrative costs of GIs, which can be borne by any agent in the economy: high administrative costs affect the welfare of individuals and the total welfare negatively;
- the difference between GI and non-GI products in terms of quality: if the difference in quality between GI- and non-GI products is significant, this information, as disclosed by the GIs, is relatively important to consumers. Moreover, GI producers will benefit more, since the demand-inducing effect of GIs will be greater. Conversely, non-GI producers' welfare will incur a greater negative effect;
- market power of GI producers: if GI producers have greater market power, it would allow them to reap the benefits of GIs more effectively, through higher prices. At the same time, non-GI producers would be negatively affected by such market power. As for consumers, market power affects them negatively, through the higher prices charged on products, but also positively, by inducing producers to invest in GI protected products.

Unfortunately, it is not possible to quantify these relevant issues precisely, as they are relatively subjective and vary between the different GI products. It is possible, however, to give an indication of the proportion of the welfare gains and to consider different scenarios, as shown in Table 12. These scenarios illustrate how the three selected factors affect the different players in the economy independently from each other. While a great variety of scenarios can be considered, the current analysis limits itself to three as an illustrative exercise.

Table 12: Social impacts of the introduction of EU framework protection of GIs for non-agricultural products

Scenario	Consumer	GI producers	Non-GI producers	Total welfare
(1) Administrative costs are low GI products are of relatively high quality GI producers have significant market power	+	+++	--	+
(2) Administrative costs are moderate GI products are of slightly higher quality GI producers have some market power	+	++	-	+
(3) Administrative costs are high GI products are of similar quality as non-GI ones GI producers have low market power	0	+	-	0

Notes: '+++' implies a very large positive impact, '++' implies a large positive impact, '+' implies a positive impact, '0' implies a neutral impact, '-' implies a negative impact, '--' implies a strong negative impact.

As shown in Table 12, the introduction of GIs could imply some redistribution of welfare. Consumers could profit if GIs give them valuable information on the quality of products, helping them optimise their consumer choices. Producers of GI products could benefit in any case, since GIs should allow them to signal the quality of their products and thus sell more products and/or to sell them at a higher price. Finally, producers of non-GI products could face a reduction of welfare due to more effective competition from GI products. Nevertheless, the net welfare effect is likely to be positive.

2.2.2. Rural development dynamics

Both EU policies and the literature emphasise the potential of GIs to improve rural livelihoods based on local resources¹⁰³ and hence, to advance rural development.

The value of GIs in the promotion of rural development is recognised in the preamble of Council Regulation (EEC) No 2081/92 on the protection of geographical indications and designations of origin for agricultural products and foodstuffs: '... the promotion of products having certain characteristics could be of considerable benefit to the rural economy, in particular to less-favoured

¹⁰³ A. Pacciani, G. Belletti, A. Marescotti and S. Scaramuzzi, ['The Role of Typical Products in Fostering Rural Development and the Effects of Regulation \(EEC\) 2081/92'](#), 73rd Seminar of the European Association of Agricultural Economists, Ancona, Italy, 2001.

or remote areas, by improving the incomes of farmers and by retaining the rural population in these areas;'.¹⁰⁴

In addition, the literature underlines that indirect benefits – such as the creation of employment (see Section 2.1.2), the retention of the population and the possibility to generate tourism – should arise for both GI owners and the rural community as a whole.¹⁰⁴ The link between GIs and rural development involves several aspects. Belletti and Marescotti¹⁰⁵ identify the following four main types of effects that origin food products can have on the development of local territories:

- support for the GI supply chain;
- promotion of rural economic diversification;
- empowerment and activation of human resources and development of local forms of social organisation;
- protection of the environment, amenities and local cultures.

Support for the GI supply chain

The value created by a GI on the market may be directly transmitted to local players through the supply chain structure, which improves local economic conditions.

A study by Barjolle¹⁰⁶ measured the effect of several GI-protected agricultural products on income and local employment. The study shows that these products are often situated in disadvantaged areas and contribute, because of the relatively higher selling price charged on consumers, to better remuneration for producers, allowing for economic efficiency based on a higher workforce intensity and a higher employment rate per product. This is consistent with the descriptive evidence on non-agricultural GIs provided in the aforementioned 2013 oriGIn, Insight Consulting and REDD study:¹⁰⁷ two thirds of the regions where non-agricultural GI products are produced have poverty and unemployment rates above 20 %. Remuneration linked to commercial valorisation allows economic returns to reinforce farms' viability and to protect a heritage and a landscape threatened by a marketplace that is otherwise dominated by price competition.

A 2018 review by Cei et al.¹⁰⁸ confirms these findings by summarising the empirical evidence concerning the theorised effects of agricultural GIs on local economic development. It shows that GIs are actually able to generate value added, especially at the consumer and retailer levels, while the effects on the economic performance of producers are more heterogeneous and dependent on specific local conditions. A 2018 study¹⁰⁹ on Italian NUTS-3 regions establishes a positive effect of the EU-level policy on agricultural GIs on agricultural value added.

¹⁰⁴ D. Zografos, *Geographical indications and socio-economic development*, 2008.

¹⁰⁵ G. Belletti and A. Marescotti, 'Origin products, geographical indications and rural development'. In *Labels of Origin for Food: Local Development, Global Recognition*; E. Barham, B. Sylvander, Eds.; CABI Publishing: Rugfest Wallingford, UK, 2011; pp. 75-91.

¹⁰⁶ D. Barjolle on geographical indications and protected designations, 2016, op.cit.

¹⁰⁷ [OriGIn, Insight Consulting and REDD study for the European Commission](#), 2013.

¹⁰⁸ L. Cei, E. Defrancesco and G. Stefani, '[From Geographical Indications to Rural Development: A Review of the Economic Effects of European Union Policy](#)', *Sustainability*, 10, 2018.

¹⁰⁹ L. Cei, G. Stefani, E. Defrancesco, G. Lombardi, '[Geographical Indications: A first assessment of the impact on rural development in Italian NUTS3 regions](#)', Working Paper 14/2017, DISEI, University of Florence, 2018.

Promotion of rural economic diversification

At the same time, typical products may stimulate the emergence of other activities in their area of origin. Tourism is probably the most well-known example, with the emergence of initiatives such as wine and food routes¹¹⁰ or the provision of local products and dishes in agritourism venues¹¹¹ that have a clear connection with the presence of local food specialties. Therefore, tourists, by buying objects and eating at local shops, represent a source of income for the area.¹¹²

According to Pecqueur,¹¹³ the bundling of local resources around a basket of goods leads to an increase in consumers' willingness to pay, especially since the resources are interdependent as well as complementary and create a coherent image of the territory.

Enforcement of local collective action to lower transaction costs

When GIs are considered as a collective property, they can bring on social effects.¹¹⁴ The management of a GI requiring collaboration and interaction among local players¹¹⁵ can stimulate networking and cooperation among them.¹¹⁶

Certain collective organisations are able to generate transaction costs savings. This aspect helps to explain the interest of producers in adopting a collective strategy of differentiation for a traditional product. Transaction costs usually cover both the costs of 'discovering the adequate prices' and the 'costs to negotiate and conclude separate contracts for each transaction'.¹¹⁷ Actions, such as the search for information on a product and its selling conditions, the conduct of contract negotiations, the possible intervention of lawyers, the breach or non-carrying out of a contract, the associated legal proceedings and claims to enforce a contract, all have to be taken into account. In the case of a collective strategy of differentiation, all major technical and commercial-level decisions are facilitated thanks to collective rules. Contract negotiations are therefore limited, because quality is assessed through a procedure that is defined for the whole supply chain by an agreed set of standards, and prices are very often known through a common system of market information.¹¹⁸

¹¹⁰ S. Gatti, and F. Incerti, '[The Wine Routes as an Instrument for the Valorisation of Typical Products and Rural Areas](#)', *Proceedings of the 52nd European Association of Agricultural Economists Seminar*, Parma, Italy, 19-21 June 1997, pp. 213-224; and M. G. Millán-Vazquez De La Torre, J. M. Arjona-Fuentes and L. Amador-Hidalgo, '[Olive oil tourism: Promoting rural development in Andalusia \(Spain\)](#)', *Tour. Manag. Perspect.*, 2017, pp. 100-108.

¹¹¹ K. L. Sidali, '[A sideways look at farm tourism in Germany and in Italy](#)', *In book Food, Agri-Culture and Tourism: Linking local Gastronomy and Rural Tourism: Interdisciplinary Perspectives*, Springer: Berlin/Heidelberg, Germany, 2011, pp. 2-24.

¹¹² J. Bessi re, '[Local Development and Heritage: Traditional Food and Cuisine as Tourist Attractions in Rural Areas](#)', *Sociol. Rural*, 1998, pp. 21-34.

¹¹³ B. Pecqueur, '[Qualit  et D veloppement Territorial: l'Hypoth se du Panier de Biens et de Services Territorialis s](#)', * conomie rurale* 37, 2001. See also: J. Suh, and A. MacPherson, 'The impact of geographical indication on the revitalisation of a regional economy: a case study of 'Boseong' green tea', *Area*, 39(4), 2007.

¹¹⁴ Barham E, '[Translating terroir: The global challenge of French AOC labeling](#)', *The Journal of Rural Studies*, 19, 2003, pp. 127-138.

¹¹⁵ X. F. Qui ones-Ruiz; M. Penker, G. Belletti, A. Marescotti, S. Scaramuzzi, E. Barzini, M. Pircher, F. Leitgeb and L. F. Samper-Gartner, '[Insights into the black box of collective efforts for the registration of Geographical Indications](#)', *Land Use Policy*, 57, 2016, pp. 103-116.

¹¹⁶ G. Belletti and A. Marescotti, '[Origin products, geographical indications and rural development](#)', *In Labels of Origin for Food: Local Development*, Global Recognition, Rugfest Wallingford, 2011, pp. 75-91.

¹¹⁷ R. H. Coase, '[The Nature of the Firm](#)', *Economica*, 1937.

¹¹⁸ D. Barjolle on geographical indications and protected designations of origin, 2016, op.cit.

Protection of the environment and of local cultures

The logic of GIs is *a priori* independent of environmental criteria. However, empirical studies¹¹⁹ show that GIs-based production, being anchored in tradition, is attentive to respect for the natural environment and evolves towards a more explicit recognition of these criteria in the products' specifications. Existing studies underline that the geographical origin and its environmental context are important factors of product differentiation by quality. It is also argued that GIs could be tools to promote higher environmental standards and to preserve the diversity of local cultures and traditions, by linking production to particular places. However, this relation is not observed for all GIs products, especially if GI protection leads to excessive and unsustainable production.¹²⁰

2.3. Limits and associated risks

While the introduction of an EU GI protection scheme for non-agricultural products could have economic, social and environmental positive impacts, it certainly involves associated costs and risks. This CoNE report identifies these risks and costs, but does not quantify them or assess the effectiveness of different possible policy options.

The economic and social benefits attributed to GIs through the creation of value in the market place require investment, among others, in production methods, but also in the development of reliable supplies of raw materials and in the establishment of quality controls. These costs, which may be significant, are to be borne by the GIs owners, be it the producers, their governments, or the EU.

In addition, an oversight authority might be needed to ensure that the characteristics and quality of the goods comply with the established standards. This might take the form of sampling and testing, and may require the involvement of a number of trained people to undertake inspections and penalise deviations from approved standards, while at the same time ensuring that such standards are controlled and applied in a uniform manner.¹²¹ The creation of an EU scheme together with a single EU supervisory body (a new body or an existing one with extended competences) could help reduce the costs at Member State level.

2.3.1. The need for promotion and marketing of GIs

For consumers to perceive GI protection as the result of a process whereby reputation is institutionalised, they must be aware of its meaning. The success of policy measures aimed at protecting GIs may vary significantly depending on how skilfully and effectively marketing strategies are implemented.¹²² This may incur costs, both at institutional and producer level.

¹¹⁹ M. Hirczak and A. Mollard, '[Qualité des produits agricoles et de l'environnement: le cas de Rhône-Alpes](#)', *Revue d'Économie Régionale & Urbaine*, vol. décembre, No 5, 2004, pp. 845-868; and R. Williams and M. Penker, '[Do Geographical Indications Promote Sustainable Rural Development?](#)', *Jahrbuch der Österreichischen Gesellschaft für Agrarökonomie* 18(3): 2009, pp. 147-156.

¹²⁰ For agricultural GIs, see the case of Tequila: S. Bowen and A. Valenzuela Zapata, '[Indications, terroir, and socioeconomic and ecological sustainability: The case of tequila](#)', *Journal of rural studies*, 25(1), 2009, pp. 108-119.

¹²¹ D. Zografos, 2008, op.cit.

¹²² D. Rangnekar, '[Socio Economics of geographical indications - A Review of Empirical Evidence from Europe](#)', *International Centre for Trade and Sustainable Development (ICTSD) and United Nations Conference on Trade and Development (UNCTAD)*, 2004.

2.3.2. GIs as club goods: organisation and governance of supply chains

Achieving coherence and authenticity among the different firms and within each firm's supply chain raises substantial collective action problems. It should be recognised that, as GIs are already in existence at the national level, their registration and protection, but also the reorganisation of the supply chains require making modifications to well-established commercial relations and distribution channels.

These problems related to collective action arise because GIs are 'club goods': a particular category of public goods that exhibit the dual features of excludability (i.e. individuals can be excluded from enjoying the benefits) and non-rivalry (i.e. the enjoyment of the GI by one does not diminish the same for another).¹²³ Such a situation could lead to the exclusion of certain local producers who do not want or cannot comply with the specifications. This is common during the creation of agricultural GIs and is in contradiction with territorial development objectives.¹²⁴

2.3.3. The risk of monopolistic cartels

Geographical indications act as a strong differentiation tool through the creation of collective monopolies. This introduces both elements of monopolistic competition, where products sold on the market are heterogeneous, and elements of monopoly, where a (group of) firm(s) can establish barriers to entry.

This could lead to segmentation of the production market and to the erection of barriers limiting the entry of producers at two levels. The first barrier is that only producers within the demarcated area qualify for participation. The second one is that within the given region, only producers who comply with the GI specifications can remain in the collective. These institutional barriers facilitate the formation of a monopoly made up of all producers within the designation who comply with the GI specifications. As a result, protection of geographical indications imposes, with reference to producers outside the designation, a monopolistic market structure, given the causal link between a product and its origin, which results in a proprietary right for those entitled to using it. The monopoly thus created is not unlike that which is legitimised under trademark law by allowing a 'monopolistic right' to a trademark. However, for producers located within the designation, geographical indications retain local, public-good characteristics of non-rivalry and non-exclusion. These collective monopolies thus eliminate competition from similar products produced elsewhere, thereby improving market access for those producers entitled to using the designation. It is, however, important to bear in mind the exclusionary effects that arise from such monopolistic formations.¹²⁵

¹²³ D. Rangnekar, '[Socio Economics of geographical indications - A Review of Empirical Evidence from Europe](#)', *International Centre for Trade and Sustainable Development (ICTSD) and United Nations Conference on Trade and Development (UNCTAD)*, 2004.

¹²⁴ M. C. Mancini, 2013, 'Geographical Indications in Latin America Value Chains: A 'branding from below' strategy or a mechanism excluding the poorest?', *Journal of Rural Studies*, Vol. 32, pp. 295-306.

¹²⁵ C. Bramley, E. Biénabe, J. Kirsten, 2009, 'The economics of geographical indications: towards a conceptual framework for geographical indication research in developing countries', *The economics of intellectual property*, p. 109.

3. Conclusion

An EU-wide GI protection for non-agricultural products could have impacts on producers, consumers and society as a whole (both at local and EU level). Table 13 below presents the main impacts, which have either been extracted from existing literature or have been quantified as original contribution of this report.

Table 13: Impacts of the introduction of an EU scheme protecting GI for non-agricultural products

Impacts	Economic impacts	Social and environmental impacts
On producers	<p>Increased value of export both intra-EU and extra-EU</p> <p>Possible import-reducing effect in trade</p> <p>Risk of monopolistic power of GI producers</p> <p>On GI producers:</p> <ul style="list-style-type: none"> ○ effects of quality signalling: increased price premium; ○ usually enhanced business stabilisation and survival rate of firms; ○ possible increased production costs (including registration). 	<p>On GI producers:</p> <ul style="list-style-type: none"> ○ possible welfare gain; ○ institutionalisation of reputation; ○ usually greater ability to ensure a basic remuneration; <p>On non-GI producers:</p> <ul style="list-style-type: none"> ○ possible loss of welfare; ○ possible exclusion of those producers who are not into the GI scheme;
On consumers	<p>Increased varieties of products traded (greater choice)</p> <p>Increased availability of high-quality (GI) products</p>	<p>Effects of quality signalling: reduced information asymmetries on the quality of products</p> <p>Institutionalisation of reputation: guarantee of correspondence between reputation and characteristics of the product</p>
On society	<p>Increased value of export:</p> <ul style="list-style-type: none"> ○ intra-EU: 4.9-6.6 % increase (€37.6-50 billion); ○ extra-EU: increase in EU exports, possible decrease in EU imports from third countries <p>Increased employment: 0.12 %, or 284 000 potential new jobs</p> <p>Costs of putting in place the instrument and its supervision</p>	<p>Rural development</p> <p>Promotion of rural economic diversification</p> <p>Collective action to reduce transaction costs</p> <p>Protection of the environment</p> <p>Costs of raising consumers' awareness of the meaning of the instrument</p>

Source: author

Producers usually enjoy an increased price premium, which can be ascribed first of all to a better signalling of the characteristics of the products to consumers who value these characteristics and are willing to pay for them. The better identification of the quality of the product is coupled with a scheme that guarantees the actual correspondence of the reputation of the product to its characteristics. This further decreases the information asymmetries between producers and consumers and is expected to benefit both consumers and GI producers. The profit for GI producers would be the difference between this price premium and the increased production costs (among other things, as a result of registration). GI producers usually enjoy greater business stability and survival rates that allow to guarantee a basic remuneration to workers during downturns. Furthermore, a trade-increasing effect is to be expected on the value of exports, despite an import-decreasing effect that is likely to occur when GIs are registered in the importing countries. GIs are expected to also have an impact on non-GI producers, since they are expected to give some monopolistic power to GI producers: welfare gains are likely to accrue for GI producers, but welfare losses could be expected for non-GI producers. Moreover, the rules defining the conditions to be met to obtain the protection have exclusionary consequences.

Consumers are expected to benefit from the same improved quality signalling and institutionalisation of reputation: they will know more about the characteristics of a product in a setting where there is an institutional guarantee that the name of the product and its geographically relevant characteristics will match each other. Consumers are expected to face greater product choice through a greater product and price differentiation, and to have greater access to high-quality products.

Overall, the impacts on consumers and (GI and non-GI) producers will depend on the administrative costs of GI registration, on the quality difference between GI and non-GI products, and on the market power enjoyed by GI producers.

Looking at impacts that affect different players at a time, both at local (territorial) and EU level, and assuming the presence of similar effects as those observed for agricultural GIs, it is possible to expect an increase in the value of intra-EU exports (calculated for the 17 sectors that include 80 % of possibly registered non-agricultural GIs) by at least 4.9 % (around €37.6 billion). EU exports are expected to increase also in extra-EU trade, but EU imports from third countries may decline (although the presence and the extent of such a decline depend on the estimation model used and, where such a decline is present, it may be mitigated if third countries have GI policies in place). In addition, employment is expected to increase by 0.12 % due to the enhanced level of performance of GI producers and to the geographical focus of the policy. This will translate into 284 000 potential new jobs, expected to be created in areas with relatively high unemployment and poverty rates. The overall impact on rural development is expected to be positive: besides the direct impetus to locally-based high-quality producers, rural economic diversification (e.g. tourism) will receive a boost and local producers' ability to collectively organise will be enhanced. On the local level, GIs are expected to have a rather positive environmental impact as a result of the promotion of the use of local natural resources and specific traditional methods of production, provided that over-exploitation and unsustainable use of resources is avoided. The establishment of an EU system of protection for non-agricultural GIs will be accompanied by administrative costs for setting up the EU scheme and the mechanism for monitoring it, and for developing the tools to raise consumer awareness of the policy.

Annex I: Calculation of the expected trade effect of an increase in the number of non-agricultural GIs

The paper by Raimondi et al. (2019)¹²⁶ estimates the following relationship for agricultural products between 1996 and 2014:

$$\ln X_{od,ht} = \beta_0 + \beta_1 GI_{o,ht} + \beta_2 GI_{d,ht} + \beta_3 GI_{od,ht} + \varepsilon_{d,t} + \varepsilon_{o,t} + \varepsilon_{od} + \varepsilon_{ht} + \varepsilon_t + \varepsilon_{od,ht}$$

for intra EU trade

Where $\ln X_{od,ht}$ can measure different dependent variables. We focus on the value of trade, measured as bilateral exports as a share of the importers' country import in a specific sector identified at the HS-2 digits level¹²⁷. GIs are the number of agricultural GIs in each country (importer, exporter, both) at the HS-2 digits level. The others are error terms and T is a measure of tariff barriers that, obviously, exist only in the case of extra-EU trade.

β s are semi-elasticities, i.e. the effect of one GI more on the relative change in trade.

We constructed a similar database as in Raimondi et al. for the main sectors where non-agricultural GIs could be protected under a potential EU certification scheme. The number of GIs include both products currently protected under some national system and the products that could be protected with an EU scheme. The list has been compiled with data from OriGIN, the Organisation for an international geographical indication network,¹²⁸ the Lisbon agreement database,¹²⁹ and national sources for already existing protection.¹³⁰ Both registered and potential GIs have then been matched manually with the HS-2 digits level nomenclature and with countries.

In the analysis, the number of potential GIs will be considered the lower bound and the number of potential *and* registered will be considered the upper bound.¹³¹

The selected HS-2 digit categories are those that include 80 % of GIs and are the 17 categories listed in Table 14. We select sectors that include 80 % of GIs for consistency with Raimondi et al.; however, non-agricultural GIs are more dispersed across sectors than agricultural ones (in their case, 85 % of GIs are concentrated in six sectors only).

¹²⁶ Raimondi, Falco, Curzi and Olper, [The trade effects of European union geographical indication policy](#), February 2018.

¹²⁷ Technically this is the product of the extensive and the intensive margin of trade, as shown in Appendix B in Raimondi et al (2019).

¹²⁸ <https://www.origin-gi.com/i-gi-origin-worldwide-gi-compilation-uk.html?start=120>

¹²⁹ https://www.wipo.int/cgi-lis/bool_srch5?ENG+17

¹³⁰ Austria: <https://www.patentamt.at/de/quicklinks/wiki/geografische-verbandsmarke/>; Czech Republic: <https://www.upv.cz/en/client-services/online-databases/database-of-geographic-denomination-and-appellation-of-origin/national-database.html>; Estonia: <https://www.epa.ee/en/databases/geographical-indications-databases>; France: <https://base-indications-geographiques.inpi.fr/fr/ig-homologues>; Germany: <http://www.gesetze-im-internet.de/solingen/index.html>

¹³¹ Generally, most GIs are 'potential'. In very few cases, most GIs are already registered, as it is in Bulgaria for the category 25 (salt, stone, cement) and this influences the results.

Table 14: Number and share of non-agricultural GIs per product category

HS-2 digit product category	Number of potential GIs	Number of existing GIs	Total number of GIs	% of total
Chapter 69 – ceramic products	167	47	214	25 %
Chapter 25 – salt; sulphur; earths and stone; plastering materials, lime and cement	53	26	79	9 %
Chapter 58 – special woven fabrics; tufted textile fabrics; lace; tapestries; trimmings; embroidery	50	11	61	7 %
Chapter 70 – glass and glassware	37	8	45	5 %
Chapter 44 – wood and articles of wood; wood charcoal	42	2	44	5 %
Chapter 71 – natural or cultured pearls, precious or semi-precious stones, precious metals, metals clad with precious metal, and articles thereof; imitation jewellery; coin	30	5	35	4 %
Chapter 62 – articles of apparel and clothing accessories, not knitted or crocheted	27	1	28	3 %
Chapter 68 – articles of stone, plaster, cement, asbestos, mica or similar materials	22	0	22	3 %
Chapter 82 – tools, implements, cutlery, spoons and forks, of base metal; parts thereof of base metal	21	1	22	3 %
Chapter 24 – tobacco and manufactured tobacco substitutes	5	15	20	2 %
Chapter 51 – wool, fine or coarse animal hair; horsehair yarn and woven fabric	15	2	17	2 %
Chapter 92 – musical instruments; parts and accessories of such articles	16	1	17	2 %
Chapter 87 – vehicles other than railway or tramway rolling stock, and parts and accessories thereof	16	0	16	2 %
Chapter 95 - toys, games and sports requisites; parts and accessories thereof	16	0	16	2 %
Chapter 42 – articles of leather; saddlery and harness; travel goods, handbags and similar containers; articles of animal gut (other than silkworm gut)	15	0	15	2 %
Chapter 46 – manufactures of straw, of esparto or of other plaiting materials; basketware and wickerwork	14	0	14	2 %
Chapter 73 – articles of iron or steel	13	1	14	2 %

Data source oriGIn data, Lisbon Agreement database and national sources.

The distribution across countries is described in Tables 15 and 16 below.

Table 15: Distribution of non-agricultural GIs per country and per sector (potential and registered)

	All GIs (registered + potential)																
	HS 24	HS 25	HS 42	HS 44	HS 46	HS 51	HS 58	HS 62	HS 68	HS 69	HS 70	HS 71	HS 73	HS 82	HS 87	HS 92	HS 95
Austria	0	14	1	1	0	3	1	16	5	13	2	0	4	4	4	1	2
Belgium	0	1	0	0	0	0	1	0	1	1	1	1	0	0	0	0	0
Bulgaria	15	21	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
Cyprus	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Czechia	0	6	0	0	0	0	5	0	0	6	7	2	0	0	0	1	0
Denmark	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0
Estonia	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Finland	0	0	0	0	0	1	1	0	0	0	0	0	0	1	0	1	0
France	0	8	3	3	2	2	14	1	0	32	7	5	0	3	0	0	0
Germany	4	12	1	9	0	2	2	3	2	23	9	5	1	6	10	6	10
Hungary	0	2	0	0	0	0	4	0	0	7	1	0	2	0	0	0	0
Ireland	0	0	0	0	0	0	5	1	0	0	7	1	0	0	0	1	1
Italy	0	5	0	5	0	1	2	0	1	69	2	3	0	1	0	1	0
Lithuania	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Luxembourg	0	1	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0
Malta	0	0	0	0	0	0	1	0	0	0	0	1	0	0	1	0	0
Poland	0	1	0	0	0	0	1	0	0	1	1	1	0	0	1	0	0
Portugal	0	0	0	2	0	1	5	1	0	3	0	0	1	0	0	0	0
Romania	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0
Slovakia	0	2	0	1	0	0	0	0	1	1	0	1	0	0	0	0	0
Slovenia	0	0	0	1	0	0	1	1	0	1	1	0	1	0	0	0	0
Spain	1	5	10	21	12	3	16	3	12	45	4	15	5	6	0	6	3
Sweden	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
The Netherlands	0	0	0	0	0	1	0	0	0	2	1	0	0	0	0	0	0
United Kingdom	0	0	0	0	0	3	1	2	0	1	0	0	0	0	0	0	0
Greece	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Latvia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Croatia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Data source: oriGIn data, Lisbon Agreement database and national sources.

Table 16: Distribution of non-agricultural GIs per country and per sector (potential)

	Potential GIs																
	HS 24	HS 25	HS 42	HS 44	HS 46	HS 51	HS 58	HS 62	HS 68	HS 69	HS 70	HS 71	HS 73	HS 82	HS 87	HS 92	HS 95
Austria	0	14	1	1	0	3	1	16	5	13	2	0	4	4	4	1	2
Belgium	0	1	0	0	0	0	1	0	1	1	1	1	0	0	0	0	0
Bulgaria	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cyprus	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Czechia	0	2	0	0	0	0	1	0	0	3	1	0	0	0	0	0	0
Denmark	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0
Estonia	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Finland	0	0	0	0	0	1	1	0	0	0	0	0	0	1	0	1	0
France	0	6	3	2	2	2	11	0	0	30	7	3	0	3	0	0	0
Germany	4	12	1	9	0	2	2	3	2	23	9	5	1	5	10	6	10
Hungary	0	1	0	0	0	0	2	0	0	3	0	0	1	0	0	0	0
Ireland	0	0	0	0	0	0	5	1	0	0	7	1	0	0	0	1	1
Italy	0	4	0	4	0	1	2	0	1	33	1	3	0	1	0	1	0
Lithuania	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Luxembourg	0	1	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0
Malta	0	0	0	0	0	0	1	0	0	0	0	1	0	0	1	0	0
Poland	0	1	0	0	0	0	1	0	0	1	1	1	0	0	1	0	0
Portugal	0	0	0	2	0	1	4	1	0	3	0	0	1	0	0	0	0
Romania	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0
Slovakia	0	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0
Slovenia	0	0	0	1	0	0	0	1	0	1	1	0	1	0	0	0	0
Spain	1	5	10	21	12	3	16	3	12	45	4	15	5	6	0	6	3
Sweden	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
The Netherlands	0	0	0	0	0	1	0	0	0	2	1	0	0	0	0	0	0
United Kingdom	0	0	0	0	0	1	1	2	0	1	0	0	0	0	0	0	0
Greece	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Latvia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Croatia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Data source: oriGIn data, Lisbon Agreement database and national sources.

The results presented below have to be interpreted as the long-run effect of a GI protection policy: They do not have to be interpreted as the immediate effect of the introduction of the identified GIs, but as the effects that may cumulate after a couple of decades since the beginning of the policy. Indeed, Raimondi et al. estimated the elasticities over 18 years (1996-2014). We are assuming that over a similar span of time, the number of GIs that could be registered are the ones that are either currently recognized under a national law, or identified as potentially registered if a system was in place, which seems a reasonable assumption.

It has to be noted nevertheless that we apply coefficients estimated using data that have a different structure with respect to the data on non-agricultural GIs. Since Raimondi et al. have data for every year between 1996 and 2014 (panel data), while here we project the 'final number of GIs' that we expect after some years of policy implementation.

Another caveat about the use of Raimondi semi-elasticities in our context is that these were estimated on the EU15 sample, while we apply them on the EU-28 one. It is worth remembering that our basic assumption is that exports of non-agricultural products react to the number of GIs per sector as exports of agricultural products do.

Raimondi and co-authors (2019) identify three possible cases, where the impact of introducing a new GI is different: a scenario where, in a specific sector, the exporter has GIs but the importer does not; a scenario where the importer has GIs but the exporter does not, and a finally a scenario where both have. Their results, for each of the scenarios, are presented in Table 17 below.

Table 17: Effect of an additional agricultural GI on the value of trade in the agri-food sectors

Scenario	Coefficient in equation (1) ¹³²	Value of coefficient of equation (1)	Expected impact of an additional GI on value of exports from country 'o' to country 'd' in sector 'h'
The exporter (o) has GIs but the importer (d) does not in sector h	β_1	0.0102	1.02 %
The importer (d) has GIs but the exporter (o) does not in sector h	β_2	-0.0168	-1.68 %
Both the exporter (o) and the importer (d) have GIs in sector h	β_3	0.0024	0.24 %

Data source: Raimondi et al., 2019.

We constructed a database using Eurostat COMEXT data¹³³ with all intra-EU country pairs for the selected HS-2 digits sectors, reporting the trade flows between them in 2018. By matching the constructed GI dataset at the country-sector level, we can predict the effect that a potential EU level protection policy of non-agricultural GI may have on exports for each country pair-sector, by applying the semi-elasticities found by Raimondi et al.

The procedure is the following: we construct a database where a row represents the export from country 'o' to country 'd' in product category 'k'. We associate to each line the number of GIs in 'o', the number of GIs in 'd' and the sum of the two and we identify in which scenario each line falls: only exporter has GIs, only importer has, both have. According to the scenario, we associate the appropriate coefficient found in the paper by Raimondi and co-authors.

If we look at the relative change of bilateral export over the destination country's import in each bilateral exchange (a row, for us), we observe that in about the half of cases, there is no change, in about 30% of cases, there is an increase in bilateral export relative to import, and in about 20% of cases there is a decrease. To get the actual change in exports, we have nevertheless to consider the initial level of the ratio between bilateral exports and total import of the destination country.

¹³² Coefficients are calculated per country-pair and sector at the HS-2 digit level.

¹³³ <http://epp.eurostat.ec.europa.eu/newxtweb/> data on EU-28 in 2018.

The expected change in export is estimated from the following equation:

$$\frac{E'_{o,d,k}}{I'_{d,k}} - \frac{E_{o,d,k}}{I_{d,k}} = \beta_j GI_{o,d,k}$$

where

$E_{o,d,k}$ indicates the export from country "o" to country "d" in sector "k" and $E'_{o,d,k}$ is the same variable after the introduction of GIs, $I_{d,k}$ indicates the total import from the world to country "d" in sector "k" and $I'_{d,k}$ is the same variable after the introduction of GIs

β_j is the coefficient of the appropriate j^{th} scenario from Table 17

$GI_{o,d,k}$ is the sum of the number of GIs in countries "o" and "d" in sector "k"

following some algebraic steps, we obtain:

$$E'_{o,d,k} = E_{o,d,k} + \frac{\beta_j GI_{o,d,k} I_{d,k}^2}{I_{d,k} - E_{o,d,k} - I_{d,k} \beta_j GI_{o,d,k}}$$

under the assumption that

$$I'_{d,k} = I_{d,k} + (E'_{o,d,k} - E_{o,d,k})$$

i.e. that the only change in import of country "d" is due to the effect of GI introduction.

A number of non-reasonable cases appear, that are dealt with in the following way:

- cases where the $\frac{E'_{o,d,k}}{I'_{d,k}}$ ratio is lower than zero because $E'_{o,d,k}$ ends up being negative are replaced with $E'_{o,d,k} = 0$, to indicate that in these cases the trade reducing effect of GIs bring bilateral exports to zero;
- cases where the $\frac{E'_{o,d,k}}{I'_{d,k}}$ ratio are greater than one are dropped (we lose 13 cases doing so).

After finding the change in export per sector and country pair, we aggregate the results by sector, to obtain the overall change in the value of exports and look at which share of the initial sectoral value of trade it represents.

We perform this analysis for a 'lower bound' of GI number (only the 'potential' ones) and the 'upper bound' (including both potential and already registered). It has to be noted that the second one is the closest to the analysis done by Raimondi et al.

The results by sector are reported in Tables 18 and Table 19 below.

Table 18: Expected effect on intra-EU trade of the certification of all (potential + registered) non-agricultural GIs (first case)

HS-2 digit product category	Change in value of exports	Initial value of export (2018)	Change relative to initial (%)
Chapter 24 – tobacco and manufactured tobacco substitutes	1 716 046 271	12 349 634 656	13.90 %
Chapter 25 – salt; sulphur; earths and stone; plastering materials, lime and cement	6 695 897 287	7 889 671 363	84.87 %
Chapter 42 – articles of leather; saddlery and harness; travel goods, handbags and similar containers; articles of animal gut (other than silkworm gut)	916 612 491	14 592 543 646	6.28 %
Chapter 44 – wood and articles of wood; wood charcoal	11 525 668 758	36 314 482 101	31.74 %
Chapter 46 – manufactures of straw, of esparto or of other plaiting materials; basketware and wickerwork	61 041 452	210 118 590	29.05 %
Chapter 51 – wool, fine or coarse animal hair; horsehair yarn and woven fabric	186 627 554	2 919 619 889	6.39 %
Chapter 58 – special woven fabrics; tufted textile fabrics; lace; tapestries; trimmings; embroidery	815 113 632	1 695 725 270	48.07 %
Chapter 62 – articles of apparel and clothing accessories, not knitted or crocheted	6 643 956 630	44 986 352 824	14.77 %
Chapter 68 – articles of stone, plaster, cement, asbestos, mica or similar materials	1 531 508 973	13 043 020 708	11.74 %
Chapter 69 – ceramic products	37 674 590 196	11 067 910 947	340.39 %
Chapter 70 – glass and glassware	6 634 925 774	19 890 178 008	33.36 %
Chapter 71 – natural or cultured pearls, precious or semi-precious stones, precious metals, metals clad with precious metal, and articles thereof; imitation jewellery; coin	19 043 417 542	25 739 274 927	73.99 %
Chapter 73 – articles of iron or steel	3 686 403 625	79 894 799 176	4.61 %
Chapter 82 – tools, implements, cutlery, spoons and forks, of base metal; parts thereof of base metal	1 296 211 236	15 497 332 110	8.36 %
Chapter 87 – vehicles other than railway or tramway rolling stock, and parts and accessories thereof	12 608 299 183	450 078 508 778	2.80 %
Chapter 92 – musical instruments; parts and accessories of such articles	119 660 003	1 252 152 666	9.56 %
Chapter 95 – toys, games and sports requisites; parts and accessories thereof	1 314 080 716	23 983 106 972	5.48 %
Sum	112 470 061 322	761 404 432 631	14.77 %

Data source: Raimondi et al., 2019 Eurostat, COMEXT database, Origin data, Lisbon Agreement database and national sources.

Table 19: Expected effect on intra-EU trade of the certification of potential non-agricultural GIs (first case)

HS-2-digit product category	Change in value of exports	Initial value of export (2018)	Change relative to initial (%)
Chapter 24 – tobacco and manufactured tobacco substitutes	-394 339 281	12 349 634 656	-3.19 %
Chapter 25 – salt; sulphur; earths and stone; plastering materials, lime and cement	4 356 612 459	7 889 671 363	55.22 %
Chapter 42 – articles of leather; saddlery and harness; travel goods, handbags and similar containers; articles of animal gut (other than silkworm gut)	916 612 491	14 592 543 646	6.28 %
Chapter 44 – wood and articles of wood; wood charcoal	10 828 097 845	36 314 482 101	29.82 %
Chapter 46 – manufactures of straw, of esparto or of other plaiting materials; basketware and wickerwork	61 041 452	210 118 590	29.05 %
Chapter 51 – wool, fine or coarse animal hair; horsehair yarn and woven fabric	114 097 168	2 919 619 889	3.91 %
Chapter 58 – special woven fabrics; tufted textile fabrics; lace; tapestries; trimmings; embroidery	633 938 305	1 695 725 270	37.38 %
Chapter 62 – articles of apparel and clothing accessories, not knitted or crocheted	8 046 315 053	44 986 352 824	17.89 %
Chapter 68 – articles of stone, plaster, cement, asbestos, mica or similar materials	1 531 508 973	13 043 020 708	11.74 %
Chapter 69 – ceramic products	19 396 629 021	11 067 910 947	175.25 %
Chapter 70 – glass and glassware	5 064 100 071	19 890 178 008	25.46 %
Chapter 71 – natural or cultured pearls, precious or semi-precious stones, precious metals, metals clad with precious metal, and articles thereof; imitation jewellery; coin	15 425 582 683	25 739 274 927	59.93 %
Chapter 73 – articles of iron or steel	3 109 145 680	79 894 799 176	3.89 %
Chapter 82 – tools, implements, cutlery, spoons and forks, of base metal; parts thereof of base metal	1 085 421 616	15 497 332 110	7.00 %
Chapter 87 – vehicles other than railway or tramway rolling stock, and parts and accessories thereof	12 608 299 183	450 078 508 778	2.80 %
Chapter 92 – musical instruments; parts and accessories of such articles	85 244 818	1 252 152 666	6.81 %
Chapter 95 – toys, games and sports requisites; parts and accessories thereof	1 314 080 716	23 983 106 972	5.48 %
Sum	84 182 388 252	761 404 432 631	11.06 %

Data source: Raimondi et al., 2019, Eurostat, COMEXT database, Origin data, Lisbon Agreement database and national sources.

The expected average change of intra-EU exports per sector is between 3 % and 340 %. Overall, summing the 17 sectors in the analysis, exports are expected to increase between €84 billion and €112 billion (i.e. between 11 % and 15 % of the 2018 value) over the first two decades of implementation of the policy.

Both estimates mask a huge variation across sectors: a strong positive impact is expected to occur in the ceramic sector (which alone is expected to have a fourth of all GIs), while a negative effect is expected in the toy, game and sport requisite sector. The differences are due to both the expected number of GIs and the number of cases that fall in each of the three abovementioned scenarios. Strong positive effects e.g. are forecasted where several GIs are expected to be registered and most of these are in exporting countries (or in importing countries, but under the condition that the exporter also has GIs in the same product line). The result in the ceramic sector stands out for being quite big, since exports in that sector are expected to increase up to three times. It may raise the question whether it is an outlier. Still, the positive effect on trade holds also dropping this sector.

An alternative and more conservative estimate can be obtained by defining $I_{d,k}$ in equation

$$\frac{E'_{o,d,k}}{I'_{d,k}} - \frac{E_{o,d,k}}{I_{d,k}} = \beta_j GI_{o,d,k}$$

as the total import from the EU to country “d” in sector “k” and $I'_{d,k}$ is the same variable after the introduction of GIs (instead of import from the world).

Using this definition provides gives us the following results:

Table 20: Expected effect on intra-EU trade of the certification of all (potential + registered) non-agricultural GIs (second case)

HS-2 digit product category	Change in value of exports	Initial value of export (2018)	Change relative to initial (%)
Chapter 24 – tobacco and manufactured tobacco substitutes	1 326 522 493	12 349 634 656	10.74 %
Chapter 25 – salt; sulphur; earths and stone; plastering materials, lime and cement	4 274 466 857	7 882 968 127	54.22 %
Chapter 42 – articles of leather; saddlery and harness; travel goods, handbags and similar containers; articles of animal gut (other than silkworm gut)	114 664 757	14 592 543 646	0.79 %
Chapter 44 – wood and articles of wood; wood charcoal	6 478 394 795	36 314 482 101	17.84 %
Chapter 46 – manufactures of straw, of esparto or of other plaiting materials; basketware and wickerwork	24 012 969	200 121 108	12.00 %
Chapter 51 – wool, fine or coarse animal hair; horsehair yarn and woven fabric	88 609 293	2 897 200 246	3.06 %
Chapter 58 – special woven fabrics; tufted textile fabrics; lace; tapestries; trimmings; embroidery	552 686 617	1 684 581 036	32.81 %
Chapter 62 – articles of apparel and clothing accessories, not knitted or crocheted	2 135 570 774	44 986 352 824	4.75 %
Chapter 68 – articles of stone, plaster, cement, asbestos, mica or similar materials	1 073 776 763	13 034 327 453	8.24 %
Chapter 69 – ceramic products	22 275 119 246	11 067 910 947	201.26 %
Chapter 70 – glass and glassware	4 800 071 469	19 890 178 008	24.13 %
Chapter 71 – natural or cultured pearls, precious or semi-precious stones, precious metals, metals clad with precious metal, and articles thereof; imitation jewellery; coin	3 688 926 716	25 739 274 927	14.33 %
Chapter 73 – articles of iron or steel	2 015 795 319	79 894 799 176	2.52 %
Chapter 82 – tools, implements, cutlery, spoons and forks, of base metal; parts thereof of base metal	445 402 091	15 497 332 110	2.87 %
Chapter 87 – vehicles other than railway or tramway rolling stock, and parts and accessories thereof	1 021 303 456	450 078 508 778	0.23 %
Chapter 92 – musical instruments; parts and accessories of such articles	7 199 908	1 244 114 673	0.58 %
Chapter 95 – toys, games and sports requisites; parts and accessories thereof	-99 960 462	23 983 106 972	-0.42 %
Sum	50 222 563 063	761 337 436 788	6.60 %

Data source: Raimondi et al., 2019 Eurostat, COMEXT database, Origin data, Lisbon Agreement database and national sources.

Table 21: Expected effect on intra-EU trade of the certification of potential non-agricultural GIs (second case)

HS-2 digit product category	Change in value of exports	Initial value of export (2018)	Change relative to initial (%)
Chapter 24 – tobacco and manufactured tobacco substitutes	-403 032 419	12 349 634 656	-3.26 %
Chapter 25 – salt; sulphur; earths and stone; plastering materials, lime and cement	2 773 818 333	7 882 968 127	35.19 %
Chapter 42 – articles of leather; saddlery and harness; travel goods, handbags and similar containers; articles of animal gut (other than silkworm gut)	114 664 757	14 592 543 646	0.79 %
Chapter 44 – wood and articles of wood; wood charcoal	6 079 156 051	36 314 482 101	16.74 %
Chapter 46 – manufactures of straw, of esparto or of other plaiting materials; basketware and wickerwork	24 012 969	200 121 108	12.00 %
Chapter 51 – wool, fine or coarse animal hair; horsehair yarn and woven fabric	76 094 163	2 897 200 246	2.63 %
Chapter 58 – special woven fabrics; tufted textile fabrics; lace; tapestries; trimmings; embroidery	421 556 912	1 684 581 036	25.02 %
Chapter 62 – articles of apparel and clothing accessories, not knitted or crocheted	3 075 121 193	44 986 352 824	6.84 %
Chapter 68 – articles of stone, plaster, cement, asbestos, mica or similar materials	1 073 776 763	13 034 327 453	8.24 %
Chapter 69 – ceramic products	15 312 504 970	11 067 910 947	138.35 %
Chapter 70 – glass and glassware	3 545 795 911	19 890 178 008	17.83 %
Chapter 71 – natural or cultured pearls, precious or semi-precious stones, precious metals, metals clad with precious metal, and articles thereof; imitation jewellery; coin	2 593 329 920	25 739 274 927	10.08 %
Chapter 73 – articles of iron or steel	1 622 120 550	79 894 799 176	2.03 %
Chapter 82 – tools, implements, cutlery, spoons and forks, of base metal; parts thereof of base metal	381 637 712	15 497 332 110	2.46 %
Chapter 87 – vehicles other than railway or tramway rolling stock, and parts and accessories thereof	1 021 303 456	450 078 508 778	0.23 %
Chapter 92 – musical instruments; parts and accessories of such articles	-14 321 314	1 244 114 673	-1.15 %
Chapter 95 – toys, games and sports requisites; parts and accessories thereof	-99 960 462	23 983 106 972	-0.42 %
Sum	37 597 579 467	761 337 436 788	4.94 %

Data source: Raimondi et al., 2019, Eurostat, COMEXT database, Origin data, Lisbon Agreement database and national sources.

The expected change in trade ranges between -3,26% (tobacco products in the lower bound) and 200 % (ceramics sector, again, in the upper bound). As before, the trade creation effect still holds also without considering the ceramics sector. Overall trade in the 17 sectors is expected to add between €37.6 and €50 billion to bilateral exports after about 20 years of implementation of GI policy, which represents between 4.9 % and 6.6 % respectively of exports in the same sectors in 2018.

It has to be noted that, given that the analysis was carried out at HS-2 digits level, we do not know if the trade expansion occurs specifically in GI product lines or in non-GIs belonging to the same sector.

Annex II: Calculation of the expected employment effect of an increase in the number of non-agricultural GIs

In order to estimate the potential effect on employment of the introduction of an EU certification for non-agricultural products, we use the estimates made for agricultural products by Raimondi, Curzi, Arfini, Olper and Aghabeygi (2018).

The authors use the Cambridge Econometrics Regional Database (based on Eurostat) to obtain employment information at the NUTS 3 level, while they manually match GIs that have been registered under the EU certification scheme, which was established with the Regulation 2081/1992, with the corresponding NUTS 3 region. Their study focuses on Italy, France and Spain and uses data from 1993 to 2014.

Using a Generalized Methods of Moments estimator, they are able to estimate the average impact at the regional level of an additional GI registered on regional employment growth, measured as the impact that departs from the growth trend.

They estimate the coefficients of the following system of equations:

$$\Delta I_{i,t} = \lambda \Delta I_{i,t-1} + \rho \Delta X_{i,t-1} + \omega \Delta GI_{i,t} + \theta_t + \Delta \varepsilon_{i,t}$$

$$I_{i,t} = \lambda I_{i,t-1} + \rho X_{i,t-1} + \omega GI_{i,t} + \theta_t + \pi_{i,t}$$

where I is employment in region i at time t , X is a number of control variables and GI is the number of GIs registered in region i at time t .

The semi-elasticities that Raimondi et al. (2018) find are illustrated in Table 22. The semi-elasticities imply the percentage change in employment if the region obtains one more GI.

Table 22: Impact of an additional agricultural GI on regional employment (semi-elasticities); coefficient (ω in equation above)

	Coefficient ω
Impact on agricultural employment	0.0023
Impact on industrial employment	0.0006

Data source: Raimondi et al. (2018).

By multiplying these semi-elasticities by the sample mean of the number of GI per region, it is possible to find the average effect on employment of agricultural GI registration.

The semi-elasticity used here to estimate the effect of a protection policy of non-agricultural products is the first, i.e. the expected effect on the sector of primary producers. The effect on the rest of the value chain is not calculated because of the lack of appropriate data. The only estimate used is the effect on primary producers, to avoid the risk of overestimation of the effects that will be discussed further down.

The following *caveats* have to be mentioned. First, we are assuming that employment responds to GIs registration in non-agricultural products as it does for agricultural products; second we are applying coefficients that are estimated using a panel dataset (with several observations across time, i.e. 1993-2014) to cross-sectional data, where we do not know the change in GIs from one year to the other, but the overall change that we can expect; coefficients are moreover estimated on three countries, where GIs are more present and more established. This can lead to an overestimation of the effect. Still, the difference will be partly captured by the much lower number

of GIs per region that we obtain for non-agricultural GIs in the EU with respect to agricultural GIs in the three countries: these are between 0.52 and 0.62 per region, while agricultural GIs in Italy, France and Spain are almost 3.6. Finally, it has to be mentioned that the Raimondi et al.'s estimation does not compare the EU policy to a counterfactual situation where Member States protect GIs under national registration frameworks. The authors use, as counterfactual, regions with a lower number of registered GIs and their estimation manages to properly identify the extent to which regional diffusion of registered GIs has an impact on employment, controlling for country-specific characteristics and year effects.

Our estimation of the potential employment effect per NUTS 3 region (region i) of the certification of non-agricultural GIs will be

change in employment $_i$ = semi-elasticity ω * average number of expected GIs $_i$ * employment level $_i$

where the semi-elasticity ω is the coefficient measuring the impact of an additional agricultural GI on employment among primary producers in a given region, as measured by Raimondi et al. (2018), that is 0.0023.

To find the average number of non-agricultural GIs expected per NUTS 3 region, we simply divide the overall number of expected GIs by the number of NUTS 3 regions in the EU-28. The number of expected GIs is constructed using data from Origin,¹³⁴ the Lisbon Agreement database¹³⁵ and national sources for already existing protection,¹³⁶ as for the estimation on the trade effect. We obtain again a lower bound and an upper bound: the lower bound is the number of GIs that are considered as potentially certifiable, but currently not registered under any national law. The upper bound is the sum between these ones and the GIs that are currently protected under some national system.

Considering all EU-28 and all sectors, the overall number of potential and total GIs is displayed in Table 23. It has to be noted that indeed these figures are much smaller than the ones in Raimondi et al., since in this case the average number of GI per region was 3 560.

Table 23: Number of expected non-agricultural GIs and average per NUTS 3 region

	Number of GIs	Average number of expected GIs per region
Potential GIs (lower bound)	720	0.52
Total GIs (upper bound)	856	0.62

Data source: Origin data, Lisbon Agreement database and national sources.

Of course, these averages mask a huge variation across regions. Nevertheless, we are interested in an indication of the average effect.

The relative change in employment that may be expected per region, using Raimondi et al.'s semi-elasticities is therefore the following (Table 24).

¹³⁴ <https://www.origin-gi.com/i-gi-origin-worldwide-gi-compilation-uk.html?start=120>

¹³⁵ https://www.wipo.int/cgi-lis/bool_srch5?ENG+17

¹³⁶ Austria: <https://www.patentamt.at/de/quicklinks/wiki/geografische-verbandsmarke/>; Czech Republic: <https://www.upv.cz/en/client-services/online-databases/database-of-geographic-denomination-and-appellation-of-origin/national-database.html>; Estonia: <https://www.epa.ee/en/databases/geographical-indications-databases/>; France: <https://base-indications-geographiques.inpi.fr/fr/ig-homologues>; Germany: <http://www.gesetze-internet.de/solingen/index.html>

Table 24: Expected percentage change in employment due to the expected average number of non-agricultural GIs at the regional level

	Effect on primary producers
Potential GIs (lower bound)	0.12 %
Total GIs (upper bound)	0.14 %

Data source: Raimondi et al. (2018), orlGin data, Lisbon Agreement database and national sources..

To find how this translates on average in absolute numbers of jobs created, we multiply these relative changes by the average employment per NUTS 3 region. Employment data are 2016 data from Eurostat. The average number of employed people per region in the EU-28 is 171 471.¹³⁷

The results in absolute numbers, that is in the additional number of jobs created is shown in Table 25.

Table 25: Expected absolute change in employment due to the expected average number of non-agricultural GIs at the regional level

	Effect on primary producers
Potential GIs (lower bound)	206 51
Total GIs (upper bound)	245 52

Data source: Raimondi et al. (2018). orlGin data, Lisbon Agreement database and national sources, Eurostat.

By aggregating these figures at the EU-28 level (multiplying them by the number of NUTS 3 regions), we obtain an indicative cumulative impact on employment in the range of 284 000-338 000 additional jobs. The details are provided Table 26 below.

¹³⁷ We simply divided the employment of the EU-28 by the number of regions; the variable used is nama_10r_3empers.

Table 26: Expected absolute change in employment due to the expected average number of non-agricultural GIs (cumulated affect at EU-28 level)

	Effect on primary producers
Potential GIs (lower bound)	283 956
Total GIs (upper bound)	337 592

Data source: Raimondi et al. (2018), oriGin data, Lisbon Agreement database and national sources, Eurostat.

These estimates should be considered as an upper bound for two reasons: first they do not take into account the cross-regional effects: if registering GIs in a region has a negative effect on competing producers in other regions, this is not captured by our estimation. Second, the coefficients obtained by Raimondi and co-authors on agricultural GIs are estimated in the context of the three countries with the longest tradition in the domain, i.e. not in an 'average' country. It is difficult to state with certainty if this leads to an overestimation or underestimation of the impact on employment, but most literature indicates that benefits of GIs are higher in 'established mature systems',¹³⁸ so we may argue that the present estimation could be an overestimation of the effect to be expected.

¹³⁸ A. Tregear, Á. Török, & M. Gorton, [Geographical indications and upgrading of small-scale producers in global agro-food chains: A case study of the Makó Onion Protected Designation of Origin](#). *Environment and Planning A*, 48(2), 2016, pp. 433-451.

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