

METHODS

Potential trade effects of geographical indications

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Received: 06 January 2023; **Accepted:** 20 January 2023; **Published:** 22 February 2023

Geographical indications (GI) are a value that is added to a product to signify its heritage and uniqueness to make it stand out in the market space and give it a competitive edge. GI is one of the subtypes in the intellectual property (IP) space in the global trade. It is governed by the World Intellectual Property Organization (WIPO). Issues and controversies are a very common phenomenon surrounding GI, mostly amongst the producers but rarely reaching the customers. In terms of the consumers, GI-vouched products provide quality, reputation, and exclusivity to enable them to purchase with confidence. In present practice, GI is widely used in Agri-based products that require specific manufacturing skills and traditions. According to WIPO reports from 2018, 80% of the accounted GIs are for agricultural products and foodstuffs, with the remaining 20% being for non-agri-based products. This proposal is going to view the prospects of both Agri-based and non-agri-based producers' problems across regions and suggest one common unified approach to overcome associated state problems strategically through the economic theory of clubs.

Keywords: geographical indications (GI), intellectual property (IP), agri and non-agri based productions, associated states, theory of clubs.

Introduction

Geographical (GIs) play a small yet unique role in international trade. It had carved a niche for itself. The global data released by the World Intellectual Property Organization (WIPO) in 2018 from the 92 national/regional authorities reveals that 65,900 protected GIs are in existence. Interestingly, major populated countries such as China and India, which are not only rich in human resources but also blessed with diverse natural resources, have 7,247 and 330 GIs in force, respectively, (1). In these, China leads the global chart with the most GIs, while India has the fewest. As mentioned before, wines, agri, and food products account for 81% of the world's GIs. The 2.7% accounted for handicrafts come from China, Hungary, India, and Vietnam, all of which had more than 100 GIs in force in their respective jurisdictions in 2018. These compositions are on one hand, the hind-side effect of trade in goods, which has been chartered by the increased effort to harmonize the legal system of protection of the GIs (2). **Figure 1** demonstrates the GI in force across the global countries in 2018 as per WIPO.

Some of the challenges faced by the national authorities in terms of GI incorporations and compliance are traced as:

- India faces the challenge of the integral meaning of GI in handicrafts (3). The products, especially in handicraft category, are the result of human skills or techniques. Therefore, the place of origin/geographical area for these products' raw materials (which are mostly sourced from outside regions) is not responsible for the uniqueness and quality of the registered GI products (4). It is argued that a one-size-fits-all approach is not recommended here, at least in comparing agri-based-product norms to non-agri-based products.
- In terms of the European Union (EU), the challenges are in the form of Brexit. The withdrawal of the United Kingdom from the EU will create uncertainty for the United Kingdom and EU 27 members alike in terms of GI. Amongst this, the EU Commission states that the EU's registered GIs must be given "automatic recognition" in the United Kingdom after Brexit (5).

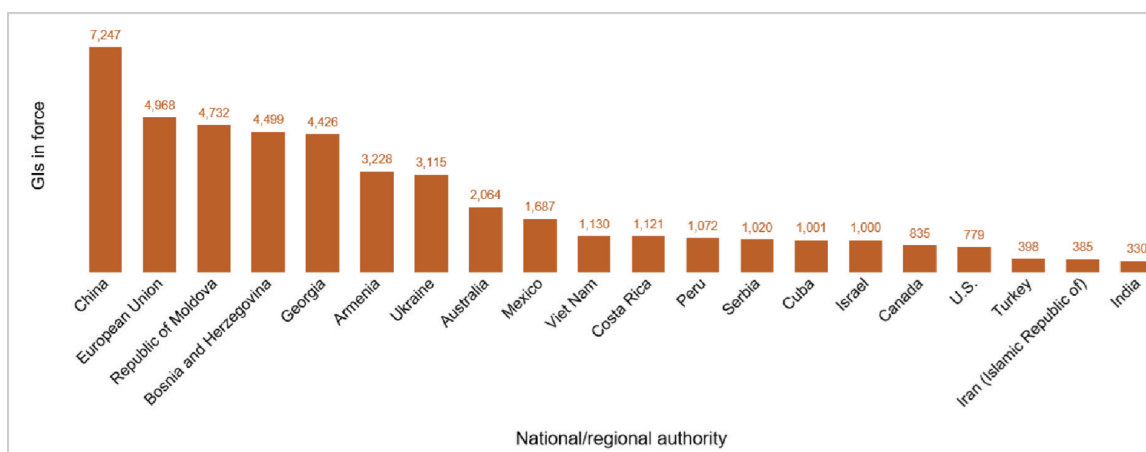


FIGURE 1 | Geographical indications (GIs) in force for selected national/regional authorities, 2018. *Source:* WIPO statistics database, August 2019.

- In terms of Chinese GI, the problems noted are in the aspect of low or basic standards, inappropriate GI issuing procedures and weak government quality inspection programs (6), thereby making the quality aspect questionable in terms of Chinese agri-food products.
- In the United States, it is the interventions of US public institutions that frequently invest in GI protection and have a private certification mark, as opposed to the hybrid public-private model in the EU (7). The challenge faced is that the US public bodies who fund the protection of GIs intervene in the system/process of certification.

The varied challenges and approaches to accounting and certifying GI across the globe make it more stimulating to have a unified code to conduct for an effectual trade.

Framework

There are quite several treaties administered in favor of GIs over centuries. The noteworthy progression of the interpretations of GI has been literally revisited every century. **Figure 2** details the progress of such treaties in favor of GIs. The latest Trade Related Intellectual Property Law (TRIPS) treaty was divided into general groups, such as intellectual property protection and global protection system and classification.

In 1967, WIPO was created by the United Nations (UN) to promote protection of intellectual properties (IPs) internationally. Today, WIPO holds 184 associated states, which is 90% of the world's countries. The latest TRIPS Agreement tried to simplify the concept and interpretation of GI within the context of IP. It is identified that Article 22 para 1 deals with the definition of GI, which has been analyzed to be not clear in terms of how geographical names are to be protected. There are differences noted in defining terms

such as ORIGIN Indication or Designation of Origin between World Trade organization (WTO) TRIPS and WIPO (8).

Amid the differences, the classic expectations of a GI process in agri or non-agri products are to prevent counterfeit products, increase the product reputation, boost the members' morale, and preserve the customer's interest in buying (9).

These differences in interpretation of the GI terms play a drastic role in the administration of trade and its policies amongst the associated member states of WIPO, which sometimes hampers the unified understanding of trade. With the GI component forming the basis of the import and export margin trade off, the former finds itself to be on the weaker side because of the intensive trade off demanded for GI products, and whereas for an exporter it is perceived as a win-win situation as it exerts positive trade effects (10).

Model theory

In the midst of trying to have a proper unified code of conduct for GI to effectuate trade, it calls for a lucid trade theory application. One of the persistent ingrained problems in GI is that the idea *per se* of geographical protection is not thoroughly investigated, which can create nontariff trade barriers which can produce both benefits and costs for the associated states involved. The two main characteristics that show IP for a protected GI are "non-rivalrous" and "non-excludable." However, in a tradeoff between goods that are halfway between a purely public good (non-rival and non-excludable) and a purely private good (rival and excludable), a club good attribute (non-rival, non-excludable/voluntary, and congestible) can be obtained (11).

Producers of goods whose national protection getting disallowed for some reason may seek collective protection, which is of significant benefit to small businesses. It plays as a collective trademark with an attractive alternative in terms of costs and benefits in protection. This collective trademarking

Years	Agreements/Treaties
1883	Paris Convention
1891	Madrid Agreement
1958	Lisbon Agreement
1967	Creation of WIPO
1994	WTO-TRIPS Agreement

FIGURE 2 | International Geographical indication (GI) legal frameworks. Source: Aveni (8).

concept amongst producers in sharing costs and creating a value through IP attracts the usage of the theory of club goods. The theory of club goods initiated by Buchanan (12) shows that comparing the costs per person in a club with the benefits per person enables the optimal size of the club to be determined (13).

When in the case of producers coming together to form a cartel to influence collective trademarks, it involves decisions in terms of the size and operational coordination for the cost and benefit determination and reaping. The size of the cartels can be an influence on the magnitude of the product protected and can influence its market pricing and trade attractiveness. This is derived by way of a quantitative equation as a tradeoff between utility and cost benefits for the products by the producers in the club (14). It is assumed that clubs are replicable and partition the population into a set of clubs, each with the optimal number of members.

The utility function of member i is

$$U^i = U^i(y^i, X, s)$$

where

$x_i = X$, x_i is the i th member's club utilization

$$\frac{\partial U_i}{\partial y_i} = U_{iy} > 0, \quad \frac{\partial U_i}{\partial X} = U_{Xi} > 0, \quad \text{and} \\ \frac{\partial U_i}{\partial s} = U_{is} < 0 \text{ for } s > s^*$$

Thus, utility increases with the consumption of private/public and club goods but decreases after attaining some membership level, s^* , with the number of members being. As per the derivation, it is assumed that the utility of the protected goods increases with an optimal membership, but as the membership increases, the benefits of optimality are not. This is similar to the concept of diminishing marginal utility. Extending this analogy with the cost-benefit increase per person in the club, the following function of the theory of clubs propagates:

$$B(s, \bar{X}) = -\frac{1}{4}s^2 + s + 3, \quad C(s, \bar{X}, R_0) = \frac{1}{s}, \quad C(s, \bar{X}, R_1) \\ = \frac{3}{s} \text{ and } \tilde{C}(s, \bar{X}, R_1) = \frac{3}{s^{0.1}}$$

where benefits function is $B(s, \bar{X})$

and the cost function is $C(s, \bar{X}, R_0)$

Again, it has been determined that the optimal size of the club is determined with the protection mode defined for GI in the trade off in terms of costs $C(s, X, R_0)$ and benefits $B(s, X)$. As the shift in the approach for protection of GI happens, it induces an increase in the producer's club, which may not

be efficient to handle the protection function optimality. The first given function assumes three different optimal sizes for calculation, where "s" stands for the size of the club. This model cited is not without refutes, like:

- Thiedig and Sylvander (15) assume that voluntarism is not a characteristic of club goods GIs. All the producers using the protected name within the delimitation are compulsory members, even if they have not applied for the protection.
- An increase in output or in the number of GI firms may cause dispersion in the quality of the products. For this reason, the geographical confinement of production may be a preventable phenomenon (16).

Though refutations and assumptions form part of the club theory approach over time, when it comes to GI protection, this theory has been disparagingly used for analyzing the trade effects.

Common issues and tested approaches

Problem of false use of GIs

One of the first major issues is that false use of GIs by unauthorized parties is detrimental to both unknowing customers and legitimate manufacturers. The former is getting deceived and led to buy a genuine product, but which is proved to be a worthless imitation. Not only so, the manufacturers or producers also suffer damage in the form of reputation, loss of business, and financial drain. Such infringements' impact in the European Union (EU) alone is valued at €2.3 billion in unjust customer pay outs.

This can be further witnessed by the study conducted by collecting world countries' data on service GIs between 2015 and 2020 (Figure 3). A total of legal identified service GIs through the filing office was 17 but non-identifiable GIs for the same countries and year related to 7 in number (Figure 3). There was a total of 24 operational service GIs between the years 2015 and 2020.

The effect of increased intracountry export value has been around 4.9–6.6% increase (€37.6–50 billion), in addition to increased employment of 0.12% or 2,84,000 potential

Countries	Number of Service GIs	False Service GIs
Azerbaijan	1	2
Brazil	1	-
China, Hong Kong SAR	1	1
China, Macao SAR	1	1
Serbia	1	-
Vietnam	12	3
Total	17	7

FIGURE 3 | Geographical indications (GIs) not in force by product category; data from 2015 to 2020. *Source:* WIPO (17).

new jobs. However, costs in terms of possible increased production include registration and the cost of putting the instrument and its supervision in place.

Solution with model theory application

For the case projected with service GIs in some studied countries over 2015–2020, outlines the benefits but at the same time cautions about the increased production costs and supervision. This is likely because, with the effect of false GIs in store, it would dictate higher business operational costs like marketing, supply chain, etc., to differentiate between the original and the false claim. But at the same time, for the issues portrayed in the associated states or regions, the effective way out can be dealt with through time-tested economic strategies or theories. It is suggested that the theory of clubs is said to be a light of hope to manage and handle the problems faced by the studied countries.

When the collective utility of service GIs members (i) are meant to be X and the collection cost of the service GIs are meant to be Y for the years 2015–2020, then the utility of service GIs as per the theory of club goods can be represented as:

S1: Collective utility of legally identified service GIs between 2015 and 2020

$$U^{17} = U^{17}(y^{17}, X, s)$$

S2: Collective utility of whole service GIs between 2015 and 2020

$$U^{24} = U^{24}(y^{24}, X, s)$$

When correlated, if the results project that Scenario 1(S1) has more leverage than S2 where:

$B(s,17) > C(s, 17, R0)$ greater than $B(s,24) > C(s, 24, R0)$, then theory of club goods is proved to be false.

However, when:

$B(s,17) > C(s, 17, R0)$ less than $B(s,24) > C(s, 24, R0)$, then the theory of club goods is proved right.

This testified and justified approach by projecting where benefits exceed the cost at the given optimal level of the club or cartel can entail proper iterations of data for validating the theoretical approach. On substituting the results, the factual numbers in the projected equation can help to validate the theory of club goods approach to nullify the false use of GI operations. Lack of unified code of conducts.

GIs have special intellectual property rights in their legal nature, i.e., they are not primarily individual private property, but belong to a whole community of producers who meet a predefined set of product specifications and have a link to a geographical location (18). They may also embody certain values which are vital for the entire community, for example, local traditions and cultural heritage. The lack of a unified code of conduct, at least within the regions or associate states from which the agri- or non-agri-based products come, is one of the impending concerns surrounding GI and its administration, as well as its concurrent relationship to region level disputes (as projected in the section titled, “Introduction”).

Solution through best practice approach

These areas demand an enhanced concentration of region-level alterations in the process handling and administration of GI, according to the regional context and demands. To prescribe a common solution to the varied challenges is not an easy goal. Consequently, this can be viewed from the best practice models practiced across nations in the area of region-level disputes.

- The Indian problem of not having one-size-fits-all approach to defining nonagricultural products (handicrafts) through cartels. This is where the handicrafts associations of optimal size based on the region come together as clubs to demand region-specific legislation to protect their rights and identity.
- In terms of EU 27 member firms’ making a collective club representation for automatic recognition in the United Kingdom for their products after Brexit.
- The Chinese agri-food product producers are forming a club to define and prove their stand for quality production as a strong point against the weak government systems.
- In the United States, the challenges of public institutions intervening in the private body certification process can be questioned when the GI product producers’ club make their voices and concerns heard together.

With this said, it is not easy to just form cartels through clubs to translate suggestions into actions. The approach’s

refutation had to be faked through logical pronouncements and calculations (regionally), which say the value derivation or utility through the clubs. When this can be practiced for action amongst the region's level disputes, a more unified code can be dictated for higher attribution and relevance.

Results and conclusion

It is seen that the two major identified GI trade problems in the paper are related and tested for validity and application through theory and practice. Starting with the first identified problem of false GIs, it is good when the application is through the model theory and the assumptions, and the estimates should always be at the upper bound. This is because the cross-regional effects are not counted in its application and if there are problems in the initial registration of GIs, this is also not considered. Having this in mind, if estimates are substituted, then results would be evident through the model method.

Coming to the next issue of no unified code of conduct, this is majorly with the behavioral aspects of the cartels and their members bound by the laws, market conditions, and regulations of the region of operations. By considering the best practice approach and taking examples from different countries, the average minimum that must be done is noted for relevance, which is having a detailed blueprint of deals and analysis for value derivation or utility through the clubs. Considering this to be the average system, more established matured systems can be undertaken as per the country context in which the problem occurs.

Seeing through the highlighted problems and solution-based approaches, one thing that is always certain is that no one-size-fits-all path. Taking the best of both worlds—theory and practice—and building up from there can serve as a booster to address these uniquely identifiable trade concerns.

Onward approach and scope

The above-mentioned approach can be a worked-out model where $B > C$ (benefits exceed costs) for the given optimal S (size), which is said to be benchmarked (through backing data) as an equilibrium between aggregate demand for protection and business cycle expansion. Through these GIs, which are intended to protect the names of specific products, promote their unique characteristics, linked to their geographical origin as well as the know-how embedded in the region. Through this outlay, it is evident that the higher the club size, the lower the aspect of benefits to GI optimality. In such a scenario, a business tradeoff can come as a challenge if doing business with limited participants and breaking even in business performance is a topic to be contemplated. This is because meager performance portraying a lack of business sustainability can hit the aspect of customer trust as well.

References

1. World Intellectual Property Organization [WIPO]. *World Intellectual Property Report 2019, The Geography of Innovation: Local Hotspots, Global Networks*. Geneva: World Intellectual Property Organization (2018).
2. Bremmers HJ. Trade effects of geographical indications. *J Verbraucherschutz Lebensmittelsicherheit*. (2015) 10:53–5. doi: 10.1007/s00003-015-0996-y
3. Government of India [GOI]. *Geographical Indications Journal No. 137*. (2020). p. 24–6. Available online at: http://www.ipindia.nic.in/writereaddata/Portal/Images/pdf/Journal_137.pdf (accessed May 29, 2020).
4. Ojha M, Pandya M. Protection of geographical indications in India; limited promise but more challenges for Indian handicrafts. *J Gujarat Res Soc*. (2019) 21:47–55.
5. Samuel W. *EU Demands Protection of Geographical Indications in Brexit. Britain*. (2020). Available online at: <https://www.euractiv.com/section/agriculture-food/news/eu-demands-protection-of-geographical-indications-in-brexit-britain/> (accessed January 30, 2020).
6. Zhao X, Finlay D, Kneafsey M. The effectiveness of contemporary geographical indications (GIs) schemes in enhancing the quality of Chinese agrifoods—Experiences from the field. *J Rural Stud*. (2014) 36:77–86. doi: 10.1016/j.jrurstud.2014.06.012
7. Le Goffic C, Zappalaglio A. The role played by the US Government in protecting geographical indications. *World Dev*. (2017) 98:35–44. doi: 10.1016/j.worlddev.2016.08.017
8. Aveni A. Geographical indications. A comparative research between European Union, United States and Brazil. *Revista JRG Estudos Acad*. (2019) 2:240–55.
9. Tashiro A, Uchiyama Y, Kohsaka R. Internal processes of geographical indication and their effects: An evaluation framework for geographical indication applicants in Japan. *J Ethnic Foods*. (2018) 5:202–10. doi: 10.1016/j.jef.2018.07.004
10. Raimondi V, Falco C, Curzi D, Olper A. Trade effects of geographical indication policy: The EU case. *J Agric Econ*. (2020) 71:330–56. doi: 10.1111/1477-9552.12349
11. Charlier C, Ngo MA. Geographical indications outside the European Regulation on PGIs, and the rule of the free movement of goods: Lessons from cases judged by the Court of Justice of the European Communities. *Eur J Law Econ*. (2012) 34:17–30. doi: 10.1007/s10657-012-9333-4
12. Buchanan. (1965)
13. Glazer A, Niskanen E, Scotchmer S. On the uses of club theory: Preface to the club theory symposium. *J Public Econ*. (1997) 65:3–7. doi: 10.1016/S0047-2727(97)00002-9
14. Sandler T. Buchanan clubs. *Constitut Polit Econ*. (2013) 24:265–84. doi: 10.1007/s10602-013-9148-5
15. Thiedig and Sylvander. (2000)
16. Benavente D. *The Economics of Geographical Indications*. Genève: Graduate Institute Publications (2013). doi: 10.4000/books.iheid.525
17. World Intellectual Property Organization [WIPO]. *WIPO IP Statistics Data Center*. Geneva: World Intellectual Property Organisation (2021).
18. Green Paper, Eur-Lex. *GREEN PAPER Making the Most out of Europe's Traditional Know-How*. (2014). Available online at: <https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:52014DC0469&rid=4>
19. Menapace L, Moschini G. Quality certification by geographical indications, trademarks and firm reputation. *Eur Rev Agric Econ*. (2012) 39:539–66.
20. Foote N. *Geographical Indications Found to Double Value of Agri-Food Products*. (2020). Available online at: <https://www.euractiv.com/section/agriculture-food/news/geographical-indications-found-to-double-value-of-agri-food-products/> (accessed April 21, 2020). doi: 10.1093/erae/jbr053