



Geographical Indications, Public Goods, and Sustainable Development: The Roles of Actors' Strategies and Public Policies

GIOVANNI BELLETTI^a, ANDREA MARESCOTTI^a and JEAN-MARC TOUZARD^{b,*}

^a *University of Firenze, Firenze, Italy*

^b *INRA, Montpellier, France*

Summary. — The protection of Geographical Indications (GIs) is being explored more and more worldwide as a tool for supporting local sustainable development. Focusing on wine and coffee value chains, this paper will set out in what way GI protection schemes can contribute to the provision of public goods, and illustrate how this contribution is being threatened by different failures that may occur within both valorization strategies and legal protection policies. By examining how private, collective, and public interventions front these failures, this paper will put forward economic arguments supporting a more comprehensive policy approach, to ensure GIs' contribution to sustainable development.

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1. INTRODUCTION

Geographical indications, or GIs, identify products that have a specific quality tied to their geographical origin. These origin-based products, or OPs, are the result of technical, social, and economic interactions, including both the mobilization of locally specific resources such as local know-how and cultural traditions, and the construction of product quality within marketing chains between producers and consumers. Over time, actors involved in these interactions shape the identity of an OP by tying its specific quality attributes to the territory where it is produced, rather than to a single firm, and by bringing it under a geographical name, or a GI, rather than a private trademark. If, thanks to supply, demand, and market conditions, the process of valorizing an OP proves successful, consumers will recognize the geographical name over time, it will be incorporated into a collective reputation. The OP can thus become a “GI product”.

GIs can therefore be considered as institutional constructions connecting the specific quality and reputation of an OP to a specific territory. This construction may be strengthened by, or indeed prompted by, the legal protection of GIs. This is increasingly being viewed as a powerful means of adding value to OPs worldwide, as they therefore become “protected GI (PGI) products”.¹ Although some studies have indicated that potentially there are negative effects to exploiting and protecting GI products (see for example Barham & Sylvander, 2011; Jena & Grote, 2012; Smith, 2008; Vandecastelaere, Arfini, Belletti, & Marescotti, 2011), the support for the establishment of PGIs is now frequently part of public policy in countries in both the north and the south. Arguments justifying this support continue in political and scientific arenas. These arguments focus on, as appropriate, the contribution to market regulation, the benefit to consumers and firms, the positive impact on local development processes, and the protection of natural and cultural resources (Barjolle, Sylvander, & Thévenod-Mottet, 2011; Bramley & Bienabe, 2012; Sylvander *et al.*, 2006). In these debates, the contribution PGI products make to public

goods provision is widely cited as a justification for public intervention.

However, the ties between GI and PGI products and public goods are yet to be studied in-depth. Therefore there is a need to better understand how public policies on GI protection, along with private and collective actions, can strengthen public goods provision.

This paper will consider how developing GIs can generate externalities and contribute to the provision of public goods. There will be a particular emphasis on the role GI legal protection schemes can play. Further, this paper will show that the ties between the legal protection of GIs and public goods provision are complex and context-dependent, as they are subject to strategies pursued by public, collective and private actors involved in the GI product value chain.

We have approached the subject using systematization, interpretation, and a critical consideration of information and lessons learnt on the subject of two products derived from perennial crops, namely, wine and coffee. We have used a selection of case studies analyzed by the authors directly,² as well as available economic literature and other “gray” sources. This information has been categorized using a theoretical framework based on the concept of public goods. From this, this paper aims to illustrate and develop new economic arguments that support a more comprehensive policy approach to the contribution GIs make to sustainable development.

This paper will be organized as follows: in the section following we will present the economic features of GI products, focusing on the institutional conditions that allow for “virtuous” sustainable development, the public profiles of GIs, and the potential failures of GI regulation and valorization strategies with regard to public goods and rural sustainable development. The third section will show how the economic model of GIs has developed in wine and coffee value chains, and how it may or may not contribute to public goods provision. In the fourth section we will discuss how actors' strategies and public policies can prompt the development of GI products with the aim of supporting their contribution to public goods provision.

2. GEOGRAPHICAL INDICATIONS AND PUBLIC GOODS: AN ECONOMIC BACKGROUND

(a) A “virtuous” economic model for GI products and the role of legal protection

In economic literature, GI products and their protection schemes are generally analyzed using two quite different approaches. The first uses standard microeconomic models and deals mainly with the welfare implications of GI regulatory approaches (see for e.g., Bonroy & Constantatos, 2015; Desquilbet & Monier-Dilhan, 2015; Lence, Marette, Hayes, & Foster, 2007; Menapace & Moschini, 2014; Moschini, Menapace, & Pick, 2008). The second approach, which this paper follows, uses the institutional analysis of quality and local endogenous development theories (Allaire & Sylvander, 1997; Bowen & Mutersbaugh, 2014; Nicolas & Valceschini, 1995; Pecqueur *et al.*, 2008; Rangnekar, 2004; Vandecandelaere *et al.*, 2011). This approach assumes that the market viability of GI and PGI products is primarily based on consumer recognition and a willingness to buy products whose production process is territorially delimited, and whose quality is thought to stem from their place of origin. Nevertheless, two other characteristics of the supply are relevant to understanding the economic nature of these products.

The first characteristic is the existence of the unique tie between the quality of the GI product and the territory where it is produced, which is a key point in understanding how these products are tied to externalities and public goods.³ Indeed, this tie is multidimensional and encompasses different aspects of product quality. Locally specific resources, both physical (i.e., a particular climate, soil, local variety or breed) and anthropic (i.e., local know-how, specific skills, landscape, historical traces, and narratives) are normally used in the production and marketing process (Barham & Sylvander, 2011; Belletti, Casabianca, & Marescotti, 2012). These resources can affect both the physical components of the product, and its intangible and symbolic attributes. GI products often originate in production systems that are less permeable to modernization and standardization, or in traditional farming systems that give them a specific character. Moreover, GI products are not only tied to a local supply chain, but also to the whole local community, as demonstrated by the product’s ties to consumption habits, local gastronomy, fairs and festivals, daily life and traditions stemming from production methods. As a consequence they possess a particular status related to their heritage (Bérard & Marchenay, 2006).

The second characteristic is related to the collective dimension of the GI, as the GI product and its reputation are the result of the efforts of many people over the course of years (and in some cases centuries) (Arfini, Mancini, & Donati, 2012; Bienabe, Kirsten, & Bramley, 2013). This explains why in many legal systems, GIs cannot be registered by individuals as private trademarks. The fact that the actors in the supply chain share a common vision concerning the quality of the product and the specific characteristics of its production process is a crucial factor in defining the identity of the product in the market, and in strengthening its reputation.

In consideration of these key characteristics of GI products, we suggest that these products can be tied to an ideal economic model. In this model, the added value generated by GI products in the market, which is led by consumer recognition and supported by the collective actions of value chain actors, is distributed along the value chain and invested in three main categories of purpose:

- Development of farms and firms: remuneration of the company’s labor and capital, and new investments to increase productivity, scale, process, and product quality;
- Collective action on promotion and control: the development of a collective GI organization dedicated to product quality control and guarantee, marketing and informing consumers, with the aim of defending and increasing the collective reputation of the GI;
- Specific local resource management: individual and/or collective investment in the preservation and development of local resources. This is primarily achieved through the renewal of traditional farming systems and voluntary actions that preserve the environment and landscape, but is also achieved through cultural and gastronomic events strengthening the identity of the local community.

In this way a virtuous economic model for GIs, or a “circle” (Belletti & Marescotti, 2011; Vandecandelaere *et al.*, 2011), works by enhancing three principal pillars: the economic viability of firms in the value chain, consumer knowledge and confidence in the ties between product quality and its origin, and the preservation of the locally specific resources that determine the territory-specific quality of the GI product.

The legal protection of GIs can offer opportunities for supporting the operation of the virtuous economic model. Economically speaking, the rationale for GI legal protection concerns the control of market failures that may result from the nature of “public goods” characterized by limited excludability and limited rivalry, and a belief in the value of the GI. In the absence of regulations concerning the use of the GI as a tool in intellectual property rights, anyone can use a geographical name. This includes products made outside the traditional geographical area, and products made within the area but with production techniques that do not meet the specific quality expected from the tie with the area. An example of this latter would be a meat product that is not based on a local breed and traditional breeding techniques and pastures, but on a generic breed and modern techniques. GI regulation using legal protection schemes aims to control free-riding and prevent over-exploitation of the name (Dogan & Ummuhan, 2012), and has allowed economic benefits to be retained by local producers engaged in maintaining GI product identity and reputation. Over time other justifications for GI protection laws have emerged that are more concerned with noneconomic and global issues, such as supply regulation, rural development, environment, and the protection of cultural traditions (Sylvander *et al.*, 2006).

More structured GI legal protection systems, such as the *sui generis* systems (Thévenod-Mottet & Marie-Vivien, 2011), permit only collective applications for GI recognition, and acknowledge the collective nature of intellectual property rights for the GI. Written product specifications are required, needing third-party inspection and certification systems. Product specifications should contain a definition of the geographical boundaries of where the GI production is recognized, a justification of the tie between the territory and its local resources and the GI product quality, the characteristics of both the production process and the quality of raw materials, and the definition of the final GI product. The inspection system should act as a guarantee to both consumers and honest producers that products sold with the GI comply with the product specifications. Recognition of a collective IPR is normally tied to the establishment of a GI collective organization devoted to the management of the PGI and its reputation, as is the case with *Consorzi di tutela* in Italy, *Consejos reguladores* in Spain and *Interprofessions* in France.

(b) *The contribution of GIs to public goods*

GI products affect public goods in many ways, including as names/identifiers, as products, as rights, and as institutional settings. Analyzing what aspects of public goods are connected to GI products is needed to justify public regulation of the use of GIs and to support GI production systems.

Judging from empirical evidence and the economic literature on GIs, a “procedural” definition of public good seems more suitable than the standard one (Samuelson, 1954). The standard definition is solely based on concepts of nonrivalry and nonexcludability, and is therefore too focused on the consumption side of the goods and on the market. The procedural definition expands the standard definition by taking into account the production side of the goods (the publicness of decision making) as well as the effects society can expect from it (the publicness of the distribution of benefits). In this way public goods can be seen as social constructions, determined by conventions, collective actions and policies (Kaul & Mendoza, 2004; Ostrom, 1990; Vanni, 2013). This approach is particularly in tune with the approach that we share, that sees PGIs as not so much defense mechanisms against imitations, but rather, as primarily social constructions. These constructions result from discussions and negotiations among different actors, including businesses and other actors in the territory with different visions of the GI product, and different interests in it (Poméon & Fournier, 2010; Sylvander, Isla, & Wallet, 2011; Tregear, Arfini, Belletti, & Marescotti, 2007).

From this perspective, GI products have five publicness profiles.

A first publicness profile is the *specific features of the GI production process*. In addition to the usual effects all agricultural production has on water, air, and soil, the GI production process has a strong impact on the quality of other, more specific local public goods. The GI product owes its specificity to traditional knowledge and the use of locally specific resources, such as combinations of soil and climate and native plant varieties or breeds. It is often the outcome of traditional farming systems that preserve traditional landscapes and specific habitats, and it is tied to local food culture (Santilli, 2012; Thévenod-Mottet, 2010). The production and market valorization of GI products can affect both the quantity and quality of resources that have the character of public goods. This effect can be positive, in the case of preservation and enhancement, or negative, in the case of over-consumption, and it generates externalities and preserves (or not) public goods (Bowen & Zapata, 2009). In some cases, if the production of the GI product ceases, the very existence of public goods is menaced, too. A particular regard for local public goods can come from local stakeholders’ awareness that the product quality and the sustainability of its production system over time depend on the protection of local resources (Bérard & Marchenay, 2006). This can push the actors of the production system to control negative externalities in water, soil, and biodiversity. In this case the product specifications of the PGI play a key role, either establishing more or less rigid rules concerning these issues, or not establishing anything at all.

A second profile concerns *economic and social effects in the territory*, e.g., employment, income, and social cohesion. These effects can also be generated by conventional or standard products, and it is open to discussion if they can be considered as public goods *per se*. However, the specific features of GI products may create additional public goods effects

through their ties to the territory. This is the case with effects tied to the fulfillment of specific public aims, for example the presence of economic activities in marginal areas, the specific characteristics of businesses involved in production (e.g., small businesses) or workers (e.g., female workers), and the legal delimitation of the production and processing area as stated in the product specifications (Bowen & Zapata, 2009; Rangnekar, 2004) which has the effect of retaining, by discouraging the abandonment of businesses. The valorization processes centered on GIs can also contribute to the consolidation of local social capital (Chiffolleau & Touzard, 2014). GI legal protection strengthens these effects by means of product specifications, generating a territorial anchor for the production process that differs in strength depending on the rules, for example, stating or not stating that a GI product should be processed inside the delimited area (Bowen, 2010). As stressed by Benavente (2013, p. 9), “geographical confinement implies capacity limitations in supply, often resulting in price premia, with an added impact on factor costs” such as land and labor.

A third profile is related to the role GIs play as “*territorial public goods*”. The reputation of the GI product can become a public good, positively connected to local public goods (first profile) and economic and social effects in the territory (second profile). The GI thus offers relevant economic opportunities to the local population, in particular, the development of tourism, leisure activities, and handicraft production (Pecqueur *et al.*, 2008). The GI plays a legitimate role in (evolving) local community identity, both in its social cohesion and in its attractiveness to outsiders such as tourists or its diaspora (Brunori & Rossi, 2000).

A fourth publicness profile is *the role of supply-chain public goods* that GI can have as a collective right over the geographical name. In line with Giovannetti’s observations (2002) regarding cooperative firms, GIs can play the role of institutions in the supply chain by way of a set of behavioral rules which are formalized with legal recognition. This allows for economies of scale and scope, while at the same time reducing transaction costs (Nicolas & Valceschini, 1995). As a consequence of legal regulation as an intellectual property right, the GI name changes its status from an unregulated public good to a public (common or club) intangible good⁴ that not only incorporates the reputation of the product but even helps to heighten in reputation, thanks to collective compliance with the promise of quality as defined in the product specifications (Belletti, 2000). Indeed, product specifications not only limit imitations by outside businesses, but also limit free-riding through cuts in quality from “insiders” in the local production system. GI right-holders can use the GI as a resource that allows them to build a differentiated identity in the market more efficiently than with individual quality signs. This often happens through the establishment of a collective organization supporting the GI, which provides advertising, lobbying, and technical assistance to businesses, etc. GI valorization and protection initiatives, if activated according to bottom-up approaches, can stimulate the processes of social cohesion, learning, and participation by farmers and other actors in the marketing chain.

Finally, GIs can be recognized by a wider national and international community *per se*, as a *symbolic or cultural public good*, which should be protected for its heritage status by virtue of its existence value. Many GI products contribute to national identity and to cultural or gastronomic heritage (Bérard & Marchenay, 2004), and have a positive impact on country exports and appeal (Agostino & Trivieri, 2014).

The analysis shows how public recognition and legal protection schemes can support or maintain five profiles of publicness. These characteristics of public goods are in turn closely interrelated with the working of the above mentioned virtuous GI economic model, as they are both prerequisite and effect.

The fact that public goods are characterized not only by publicness in consumption and in production, but also by publicness in decision-making and in the distribution of benefits (Kaul & Mendoza, 2004) is a very relevant issue in the field of agrifood GI products. In fact, strong imbalances in actor empowerment and market power can be observed in their value chains and among large and small businesses in the same sector, in particular in southern countries. As noted by Sylvander *et al.* (2011), GIs as public goods risk being affected by both under-production and “bad” production if they are unable to meet the three publicness criteria of consumption, production, and decision-making. GI recognition, supported by a legal protection scheme, is a critical step, because this recognition modifies individual actors’ positions in relation to the collective and individual appropriability of GI benefits.

In the real world, valorization outcomes and protection strategies rely heavily on synergies between the local and national governances of both product quality and locally specific resources involved in the process, and on the way in which a GI protection scheme is developed and implemented, if it is at all. The key question may thus concern the political and institutional conditions that allow for the development of the “virtuous model” of GI. We will examine these conditions with reference to two emblematic products on a global scale: wine and coffee.

3. GIs AND PUBLIC GOODS IN THE WINE AND COFFEE INDUSTRIES

Wine and coffee are two important and iconic examples of markets where origin plays a significant role. Both products derive from perennial crops that engage producers in long-term relations with place and local resources that have a great impact on soil use and landscape. The biophysical characteristics of both fruit are determined by plant varieties and agronomic practices, but they are also very sensitive to local conditions such as climate, soil, topography, and ecosystems, which widen the range of the quality of the end product, i.e., the wine and coffee. Both fruits require fermentation and specific know-how in processing and storage. Therefore, human know-how and skills are very important in both production and processing. Both products have psychotropic or stimulating properties and have acquired the status of prestigious goods over the course of history, designed for the upper classes, or destined for cultural/religious practices. They have been sold as prestigious goods through long marketing chains for many centuries, and extended to wider markets and mass consumption during the 20th century, which has increased the range of qualities and prices.

The use of GIs and the need for their legal protection was first developed for wine in European countries, and more recently for coffee in southern countries. In the next two paragraphs the principle distinctive features of PGIs in the wine and coffee industries will be presented, according to the performance of their economic models and profiles of publicness identified in part two.

(a) *Wine*

Wine is Europe’s iconic GI product, as it is in the main “new world wine” vineyards of Argentina, South Africa, Australia, and others. GIs are presented as possible tools for upgrading quality in food chains (Ponte & Ewert, 2009) in these places, or for creating new market segments (Cusmano, Morrison, & Rabellotti, 2010). There are more than 1800 protected GIs identified in the countries belonging to the International Organization of Vine and Wine (OIV, 2012), half of which are in Italy and France. The wide range of PGI wines available have been shaped by production volumes, average prices, product characteristics, the age of the PGI, winegrower organization, and by public goods specific to each wine and vineyard. We would like here to distinguish four situations, with reference to an analysis of cases in the available literature as well as to our own investigations in France (Ollagnon & Touzard, 2007; Ollat & Touzard, 2014).

A *first group of many reputed wines*, such as Champagne, Burgundy, Porto, Chianti Classico, Tokey or Rioja, illustrates the success of the GI economic model. All of these wines are the result of a long history which has facilitated the step-by-step development of OP, GI, and PGI (Barrère, 2007; Johnson, 1992). A high average price indicates the existence of a quality (quasi) rent, and covers a wide range of individual and collective costs throughout the supply-chain. It has resulted in high land prices, which have reached an average 1 million euros per hectare in Champagne in 2012 (Ministère de l’Agriculture, 2014). Powerful regional consortiums or trade associations involving wine producers and traders have played a key role during the most recent phases of these success stories. These associations control the quality of the wine, defend the GI, and promote the wine in the markets. They also develop collective strategies aimed at preserving local resources that contribute to the reputation of their wines, including soil, landscape, local know-how, and cultural and historical goods. Many kinds of publicness profiles combine and reinforce each other: (i) some specific local resources of general interest have been directly produced or affected by the development of the protection of the GI, such as the landscape of the Douro valley or Tokey, both of which are recognized as “cultural landscapes” by UNESCO; (ii) direct economic and social effects of the GI on local population are obvious, even if some wine producers outside the delimited area frequently claim to be excluded (Touzard & Vandecastelaere, 2005); (iii) the PGI has broadly become a territorial public good, producing many positive externalities for all actors located in the region, whatever their activity. For example, the positive image of Chianti Classico wine benefits other Tuscan wine producers, local olive producers, and the tourist activity (Perrin, 2013), and Rioja wine activity is acknowledged as the core of a local economic cluster (Larreina & Gómez-Bezares, 2012); (iv) the PGI also generates collective returns to actors in the supply chain from producers to final sellers, even though tough negotiations may occur, for instance between the grape-growers and wine-makers of Champagne and Port wines (Chambolle & Saulpic, 2006); (v) finally, all of these reputed wines have been integrated as symbolic goods by national or international communities, as Champagne has been in French culture, (Guy, 2007), with a dramatic positive impact on the national trade balance (Agostino & Trivieri, 2014). In this first group there are examples of failures in public goods provision as well: the economic success of these wines has promoted a monoculture over a long period, and has led to the increasing use of pesticides, which has resulted in negative soil transformation

and an erosion of biodiversity (Teil, Barrey, Floux, & Hennion, 2011). Poor work conditions for seasonal workers, or limited access to housing are also reported in some vineyards (Perrin, 2013). These failures have been promptly condemned, but they generally remain overshadowed by the positive GI impact on other dimensions of sustainability, especially economic. In fact, some reputed GI consortia have activated collective initiatives to reduce negative externalities and to promote "sustainable vineyards", as has been highlighted in the Biodivine European project (Porte & Rochard, 2012). In general, such initiatives succeed in promoting their own vision of public goods, taking into account consumer and public expectations as well (Barham, 2003). In these voluntary initiatives, government founding is limited, but public involvement remains active through sectorial regulation and partnerships in many domains, including R&D, tourism and export promotion, landscape and biodiversity preservation, and land use management. The distribution of quality rent in many domains of action has definitively taken the place of direct public support, but negotiations and co-management of public goods are still necessary.

A set of "young" GIs forms a second group, characterized by lower economic added value but very explicit ties to public goods and local resources, which are clearly mentioned in product specifications and collective marketing actions. Average wine prices are lower than those in the first group, and firms are still investing in many domains to improve wine quality, a fact that is not yet well recognized by consumers. This is the case with many PDO and PGI wines that are emerging as alternative markets and that come from basic wine regions undergoing restructuring, such as Languedoc, La Mancha, Mendoza, and the Western Cape (Ponte & Ewert, 2009; Touzard, 2000). This group also includes wines from vineyards at the periphery of prestigious ones, as the geographic area covered by the GI has extended, and these include Bordeaux, Burgundy, Rhône Valley, and Chianti; it also includes new areas where the ties between quality and local resources have just been attempted, such as Brazil and Australia (Van Caenegem, Cleary, & Drahos, 2014). The virtuous economic model is just beginning and quality rent generally remains too low to cover all the investments relating to the three pillars of firm development, collective action on promotion and control, and local resource management mentioned in part two. Difficulties "priming the pump" are increased by (i) strong external competition between different segments of the wine market, whether GIs or not (DeFrancesco, Orrego, & Gennari, 2012); and (ii) the need to bring the different projects of wine producers together at a time when the gains of GI collective action can only be anticipated (Niederle & Gelain, 2013). Facing such economic uncertainty, actors may solve coordination problems in both quality collective building and local resource management, as Touzard and Vandecandelaere (2005) have shown regarding the new wine routes in Argentina and South Africa. Many actors in these young GIs emphasize the public goods potentially involved in the productive and marketing process, often more explicitly than actors of more reputed and old PDO wines do. In Languedoc, for instance, recent PDO *Pic Saint Loup*, *Minervois* and *Costières de Nîmes* wines have launched innovative actions in landscape management, tourism, and biodiversity preservation, advocating the key role they play in maintaining employment and reducing the risk of fire (Carter, 2012). In Washington State, research organized by the local community shows that high quality "county wines" have a great impact on the tourist industry, which justifies their promotion by a state commission. (Storchmann, 2010). In Serra Gaucha, Brazil,

wine-grower associations have invested heavily in tourism activity and the promotion of European migrant cultural identities, even if many discussions reveal divergent options on these issues (Vitrolles, 2011). In all of these cases, actors are debating a wide range of issues related to sustainability and public goods. These issues have emerged during recent collective acts of PGI product specification and the launch of PGIs. The discourses are necessary for promoting the wine, attracting consumers, negotiating the local use of resources, and benefitting from rural development support. These multiple references to public goods are mainly "imported" by wine producers from their political and social context, and for this reason, sustainability has also become a new axiology for development in the wine sector (Chiffolleau & Touzard, 2014; Cusmano *et al.*, 2010). In these cases, the five profiles of publicness mentioned above are not yet well established. Public intervention therefore plays an important role and is clearly related to the social construction of public goods. State support could be justified by the need for a "starter fund" to launch the virtuous economic model, and by the prospect of the expected contributions of GI wines to public goods, job creation in rural areas and the development of new markets. The five profiles of publicness can be represented as different domains of expected progress.

The third group is a set of declining old OPs and GIs, composed of relatively high-price wines, which are now facing difficulties in covering all production costs, marketing, quality control and local resources management. These vineyards have encountered the following obstacles or important failures during their development, which have limited the performance of their economic model: low yields and high production costs as vineyards are located in hilly or mountainous areas, huge competition for water or land use, heavy pressure from pathogens, climate risks, unfavourable changes in consumer preferences, crises in the collective use of the PGI due to divergent options on quality or cheating and conflicts between producers and other actors in the marketing chain (Casabianca & Touzard, 2009). The "tragedy of common goods" (Ostrom, 1990) reveals how the use of some local public goods (profile 1 of publicness) and the use of the GI itself as a public good in the marketing chain (profile 4) can be problematic, and can affect the other dimensions of publicness. The case of Banyuls wine is illustrative of this trajectory. This fortified wine (similar to Port wine) is made from old vines cultivated on terraces on the French Catalan slopes, close to the French and Spanish coast. Banyuls vineyard is one of the oldest French PGIs (1936) and has been acknowledged for producing prestigious wine, shaping a remarkable landscape, attracting tourists, and contributing to the local economy and local identity (Alcaraz, 2001). Nevertheless, since the end of the 1990s, producers have been facing two main obstacles: (i) vine cultivation on terraces leads to "technical deadlock" and increasing costs, because mechanization is impossible, wall maintenance is costly and the application of herbicide remains necessary, which affects the quality of water and biodiversity; (ii) the demand for fortified wine is decreasing in France, due to its high alcohol content and its old-fashioned image, and to strong competition from Port wines and brandies. Criticism of the use of pesticides has also emerged and decreasing incomes has led to vine uprooting, throwing the future of the Banyuls vineyard and its economic effect on the local community (Constans, 2010) into question. The Banyuls wine growers association, along with the local LEADER group (financed by the European Rural Development Policy) and regional government intervention, have tried to respond to this crisis by developing technical experimentation, specific support for

wall maintenance and the promotion of organic viticulture on terraces (Delay, Piou & Quenol, 2015). However, conflicts over technical and quality options have emerged between producers, for example, whether organic viticulture should use mules or adopt motorization, which would necessitate restructuring the terraces. In all cases, this group has been facing technical, economic, and social “trials”, revealing failures in the public goods affected by the process of wine production. Public intervention is thus often motivated by “saving the wine producers”, by trying to compensate them for higher costs, resolve conflicts, and support the local transition to sustainability.

A fourth group of PGI wines has been identified by the lack of references to public good issues, either in the discourse tied to wine marketing and local collective action or in product specifications. Two situations have been observed: (i) GIs that are registered and protected, but not used by wine producers. This is the case with several local PGIs in France and Italy, which have been registered by small groups of producers or by cooperatives that haven’t invested in building their market, or have used another PGI, keeping the first one for future opportunities. Such a strategy could also be interpreted as a choice aimed at avoiding a local name being used by competing groups of wine growers (Touzard, Chiffolleau, & Laporte, 2008); (ii) PGIs that are used by producers, but only as an administrative requirement. In these cases, collective actions in marketing or in preserving local resources are very limited and on the whole, producers develop individual strategies with alternative quality signs such as personal names, trademarks, and the organic label. They often choose more basic market segments, where a PGI strategy has few additional economic outcomes (Ponte & Ewert, 2009). In all of these cases, the different profiles of publicness are difficult to observe, and GIs often seem empty shells. Public intervention is limited and involves more classic tools that are similar to those of the commodity market, such as sanitary control, information on volume and stocks and R&D co-founding.

In conclusion, we note that these four types of relationship between public goods and GI wines can be found in the main wine-producing countries, according to the different ages and trajectories of GI and PGI products. The second type is obviously dominant in the case of “new world wines”, although some high quality PDO or PGI (type 1 or 3) wines have also been developing for more than a century in Brazil, Chile, Argentina, California and South Africa (Defrancesco et al., 2012). In the “old world” of wine, the 4 types co-exist equally, as the 2006 national survey of French PGIs shows (Ollagnon & Touzard, 2007). The survey describes the voluntary actions launched by PGI associations in different domains of sustainability, in keeping with the different profiles of publicness mentioned above. It shows that one third of PGI wines have very few actions that deal explicitly with public goods (corresponding to our type 4), whereas half of the PGIs clearly collectively demonstrate different dimensions of sustainability and public goods (corresponding to our types 1 and 2), and 15% of PGI wines have developed more specific actions dedicated to one or two domains of sustainability, often responding to specific obstacles or crises (our type 3). This classification of PGI wines, which is based on voluntary actions that can have an impact on public goods, seems to be relevant for a wide range of French GI products, in particular Cheese (Casabianca & Touzard, 2009).

(b) Coffee

Coffee value chains present some relevant features regarding the development of valorization strategies based on GIs and

on their protection, which differentiate them from wine value chains. As compared to wine, coffee is a perfect example of buyer-driven (Ponte, 2002) global chain with globalization affecting every tie, while wine provides many examples of producer-driven value chains rooted in territories which produce an identified wine that can be marketed globally.

While for wine all the key activities in the value chain are normally managed in the territory of origin (grapes are processed and bottled in the vineyard or at least in the region), the coffee value chain is divided into two parts. The bulk of world coffee production is exported by production areas as a raw material (green coffee) to developed countries, where the downstream stages of the production processes of blending, roasting, and grinding are managed. Roasters use coffee from diverse geographical proveniences and qualities to obtain blends with stable quality characteristics. The quality of coffee at consumption level is not only affected by green coffee quality, but more particularly by downstream actors who manage downstream activities (Daviron & Ponte, 2005; Muradian & Pelulessy, 2005; Ponte, 2002). As a consequence, the reputation of some traditional processing countries, such as Italy or Belgium, competes in the mind of the consumer with the most renowned production countries such as Colombia, Kenya, and Guatemala. With time, the coffee market has gradually shifted from a producer-driven to a buyer-driven commodity supply chain, and today the coffee trade in global markets is concentrated in the hands of a few big multinational companies (Gereffi, Humphrey, & Sturgeon, 2005).

Only recently, with the wave of differentiation strategies in agrifood consumption markets, the “turn to quality” has gradually found space in even the coffee industry. Final demand has slowly evolved, with more attention being paid to complex quality attributes, and this has prompted the emergence of niche markets which are sometimes presented as a way of decommodifying the coffee market (Galtier et al., 2013; Giovannucci & Jan Koekoek, 2003; Lewin, Giovannucci, & Varangis, 2004). A number of different environmental and social certification schemes have spread relatively rapidly in the coffee industry, including Fair Trade, UTZ Certified, Bird-friendly and Rainforest Alliance (Bacon, 2004; Ponte, 2002; Raynolds, Murray, & Heller, 2007; Taylor, 2005).

The concept of differentiation by territorial origin is an almost new concept in coffee value chains and GIs are emerging as a new tool in the hands of producers, for arresting the commodification of the world market and glean value added by differentiation strategies (Montagnon, 2006; Teuber, 2010). The growing role of GIs can be demonstrated by the space they have recently taken up in the literature; is also relevant that the International Coffee Organization has devoted an international seminar to the development and possible importance of GIs for the world coffee sector (ICO, 2008).

In the past, a coffee beans’ Country of provenance, variety and altitude acted as a quality grading tool on the international coffee market, and principally signaled average consuetudinary ways of producing, processing and grading coffee beans to intermediary purchasers. Qualifying coffee by means of country of provenance has been reinforced by the large role some states have played in regulating international exchanges by means of the public control of export qualities, and mandatory public marketing boards (Daviron & Ponte, 2005).

With technological advances such as higher heterogeneity in production and processing techniques, and with the decline in the role of states in international commerce, reference to

country of provenance has lost some of its significance. At the same time, also as a consequence of WIPO agreements that force each member state to provide GI protection, a new role for place of origin has emerged, which is closer to the concept of GIs as interpreted by the wine sector. Conversely, as opposed to what normally happens to the above-mentioned social and environmental standards, protected GIs have given local producers and their representatives the opportunity of designing their own rules and identifying their product's unique quality characteristics through its tie to some territorial specificity.

As a consequence, a new need for GI protection has emerged, and there are a number of GI protection initiatives ongoing. This has presented us with the opportunity of analyzing the setting-up phase of GIs and the different strategies pursued by the initiators of GI protection. So far, there is huge diversity within the initiatives due to geographical identity in coffee value chains and the very different GI legal frameworks put in place in producing countries. Protection tools are very different, varying from *sui generis* systems to trademark systems; written product specifications are only needed for legal recognition in some cases, and control and guarantee systems are only requested in special cases.

GI protection can produce a range of effects on publicness profiles as coffee production affects a range of both environmental and social public goods. In many areas coffee cultivation is closely associated with forest management, habitat function and avian biodiversity, hill and mountain soil management, water management, and landscape, the latter being in the main associated with shading systems, pluri-culture and nonintensive farming systems. As pointed out by Halweil (2002) and Potts (2002), more than 80% of the 11.8 million hectares devoted to coffee production around the world are planted in areas of former or current rainforest. Coffee is currently grown in 13 of the world's 25 biodiversity "hotspots" (areas of high biodiversity importance and vulnerability). Sometimes, as in the case of Coorg coffee (India) (Marie-Vivien, Garcia, Kushalappa, & Vaast, 2014), the very reputation of the product is supported by its unique ecosystem and specific biodiversity. Coffee production also has a marked impact on social conditions in coffee-producing regions. The social impact of coffee covers farm incomes, employment for farm workers, social inclusion and community development as well as health risks due to the use of agrochemicals.

A selection of important examples that are illustrative of the effects protected GIs can have on public goods will be presented here,⁵ that demonstrate typologies of how the concept of GI, and how GI protection is interpreted and used by stakeholders.

A *first type* is provided by large national GIs, without real involvement in governance mechanisms from upstream actors (farmers). These large national GIs are normally registered as a result of a top-down process, directly promoted by government agencies or managed by consultation with representative organizations at a national level, but without a real involvement of coffee growers.

This is the case for some country-wide GIs, such as Kenya's collective geographical trademark (Barjolle *et al.*, 2013). By their nature these GIs have fairly generic product specifications. Indeed, it is very difficult to establish clear connections with locally specific resources in product specifications, given that reference is made to huge territories that are characterized by great internal diversity. In such wide territories, production practices are normally very heterogeneous and coffee qualities are also highly differentiated, and the purpose of the protection is more to prevent or limit the exclusion of producers

and/or production areas from the use of the geographical name of the country of origin. The result is product specifications that are very close to the simple transcription of general rules that are already in place as national coffee laws (as in the case of Kenya), and in the best case scenario, they define a standard with internal grading based solely on the technological characteristics of the beans, that is aimed at big international buyers and/or roasters rather than consumers. These PGIs do not require the use of locally specific resources, which are not incorporated in the definition of product quality, while issues relating to environmental protection are not taken into consideration, as they are crowded out by the diffusion of international standards on environmental and social issues (such as organic or Rainforest alliance standards), which allow for greater substitutability between different sources. This PGI typology appears to be a tool made available to supply-chain players, but its advantages are mainly individually appropriated by actors in the downstream stages of the national chain such as traders, exporters, and, in the end, roasters. Thus, the added value distribution along the supply-chain is left to "normal" market mechanisms, and no specific economic and social effects can be expected for coffee growers.

A *second type* of protected GI is very close to the first one, but the large national GI is characterized by a strong governance system where coffee growers have played a key role since the beginning of the process that has led to GI protection. This is the case with Café de Colombia, where coffee has a number of social effects⁶ and the GI has been promoted and is managed by the Colombian Coffee Growers Federation. Even though no direct reference is made to locally specific resources in the product specification, or to environment and social issues, the PGI governance system supports the provision of environmental and social benefits, as well as playing a relevant role as a supply-chain public good. In fact the Federation provides services to growers, such as a system of price guarantee funded by collective savings through which both large and small producers can sell their product at any time, at a location close to their farm and at a transparent and fair cash market price. Other services include the creation of knowledge through research, technical assistance to farmers, advertising and promotion, and production planning. In the case of Café de Colombia, these effects predate the GI protection thanks to the Coffee Growers Federation, but the GI protection strengthens them.

A *third type* are PGIs designating smaller geographical areas, where local actors have tried to shape coffee identity by tying its quality, both tangibly and intangibly, to territorial specificities such as local culture, environmental characteristics, and unique cultivation practices, that cannot be taken into consideration by "global" environmental standards or by large national PGIs. Some examples are *Marcala coffee* (Honduras), *Kona coffee* (Hawaii), *Machu Picchu Huadquiña Coffee* (Peru), *Café Chiapas* (Mexico), and *Café Cerrado Minas Geiras* (Brazil).

In these cases publicness profiles are more evident and articulated. GI supply chain actors are more conscious that GI protection can help to preserve the local resources on which the coffee system is based, and this can contribute to the environmental, social, and economic sustainability of the local production system. A small territorial area facilitates the participation of coffee growers in the process of defining PGI product specifications, thus amplifying territorial economic and social effects. Again, territorial contiguity helps local actors to benefit from the externalities deriving from the reputation of the coffee and local environmental public goods that are supported by the coffee, by means of the development of

tourism, for example landscape and cultural events. What is surprising, however, is that while locally specific resources and other profiles of publicness are mobilized to shape the identity of these GIs, they are only rarely explicitly considered in the product specifications, as in the case of South Sulawesi coffees, Indonesia (Neilson, 2007). However, the definition of these specific GIs requires multidisciplinary studies aimed at identifying the agro-ecological factors and cultivation practices that underlie their reputation and at defining strict product specifications. It also requires the development of local cup-testing capacities and a dialog between supply chain actors, so that common rules may be locally agreed upon and enforced outside the production area. As pointed out by Gerz and Avelino (2007), this approach is more policy-demanding than a broad GI in terms of research and technical assistance; it is more expensive in terms of efforts per ton of coffee, due to many fixed costs such as coffee cup characterization, promotional initiatives, and limited production volumes. At the same time it can be assumed that smaller, bottom-up GIs are more able to generate a long-lasting differentiation process.

A *fourth type* is GIs designating a smaller territory but only focusing on the technological characteristics of the coffee. In these cases, for example *Pico Duarte GI* in the Dominican Republic (Galtier *et al.*, 2013), the protection of the GI is mainly aimed at attaining greater, homogeneous coffee quality, inspired by the local and/or external buyers' need to rely on the stable quality characteristics of green coffee supplies. Therefore attention is not paid to enhancing specific territorial quality resources, instead the focus is on the definition of strict intrinsic quality requirements. This may cause relevant exclusions of smaller and poorly equipped farmers, and limit certified quantities. The effects on the four profiles of publicness can thus be very poor, with the exception of the role of supply chain public goods.

Some national strategies are based on the integration of a nationwide GI aimed at protecting and exploiting the reputation of the name of the country, with some regional GIs aimed at enhancing locally specific coffees. This results in a combination of the first and third approach. For example, Costa Rica ICAFE (the national Institute for Coffee) has registered the GI of *Café de Costa Rica*, and is working in conjunction with the regions on eight regional coffee GIs (Gerz & Avelino, 2007; <http://www.icafe.go.cr>). A similar situation can be found in Guatemala, where the National Coffee Association (ANACAFE) has made a pioneering effort to define the country's coffee-producing regions, based on the characteristics of geography, climate and coffee, and on cup profiles that are now valorized under the umbrella of a national GI (www.guatemalancoffees.com).

In conclusion, two main features seem to be particularly relevant to the relationship between public goods and coffee GIs. The first is the role local actors give to local resources in the definition of product identity, which relates in inverse proportion to the size of the GI delimited area, and which mainly has an impact on the effects on the local environmental and cultural public goods. The second is the governance system of the GI, and in particular the degree of involvement of coffee growers, which affects a farmer's costs in accessing the GI and added value distribution, and has an impact on the economic and social effects the GI has on the territory.

Notwithstanding the high potential origin has in the coffee value chain, the protection of GIs also faces many constraints tied to general value chain features and roaster practices. Bigger GIs may be of interest to buyers who work in large markets, even if poorly differentiated, in spite of competition

from other quality standards such as official grading, and/or with environmental and social standards. On the other hand, smaller and more specific GIs can address specialty roasters and/or alternative value-chain networks that are generally small, and are interested in promoting GIs at consumption level, even when they are not yet well known to consumers. New forms of alliance are required between producers and consumers, in order to valorize the publicness potentialities of GIs.

4. TOWARD A COMPREHENSIVE POLICY FOR GIs SUPPORTING THEIR CONTRIBUTION TO PUBLIC GOODS

(a) *Different contributions to public goods through different strategies in protected GI products*

Our analysis of protected GI products (PGIs) in both wine and coffee value chains reveals a variety of effects that PGIs exert on different profiles of publicness, of very different intensity. Although it is not easy to compare such different products because of the great differences in their history, value chain structures and national contexts, some common key issues can be highlighted.

In the case of both coffee and wine, few product specifications take public goods issues explicitly into account. These include the preservation of locally specific resources, the maintenance of specific methods of land use (for example, terrace cultivation), and other environmental and social issues such as labor conditions. Only a few rules pertaining to product quality produce positive effects, and these include the prescription to use some local varieties in wine and specific forest species for shading coffee plantations, and few rules prevent negative effects such as yield limits. Only recently, some "bottom-up" type 3 PGI coffee and type 1 or 2 wine projects have tried to shape product identity by incorporating environmental or social quality attributes, but the virtuous economic model often remains uncertain, due to difficulties encountered on the market side both through lack of consumer sensibility (mainly in the case of wine), and competition from other quality signs in the case of coffee.

In some cases PGIs are interpreted generically in a way that is closer to the concept of provenance than to origin. This is the case for broad PGIs with little reference to local identity, which may include a whole country (coffee type 1) or a large region of production (wine type 4). The quality rent remains low, as do the expected effects on public goods.

Type 2 PGI coffees supported by strong national governance are close to wines in some respects, with powerful regional governance as with wine type 1, even though the quality rent and the territorial publicness are less established in the coffee cases, and, in particular, less specified on a local scale. For PGIs that are more reputed and successful in market terms, trade-offs emerge between different profiles of publicness: pressure for intensification and growth of cultivated areas due to high market prices can generate positive effects in economic and social terms, but at the same time they can induce significant environmental problems, specifically when standards are not imposed by the Product specifications.

What emerges from the discussion of the empirical evidence is that the "virtuous" economic model of GIs does not always work effectively and the valorization processes and legal protection initiatives may fail in the provision of public goods. Failures can emerge both in the setting up of the GI and of

its legal protection, and in the implementation phase after the legal recognition.

First of all, failures can be found in the activation of valorization initiatives of GI products and in their protection. As is indicated in the case of coffee,⁷ many potential origin products and/or local actors involved in their production fail to be mobilized in a process of valorization tied to the origin, due to different factors, including a lack of empowerment (Coe, 2006) and self-esteem among local actors, little knowledge of the characteristics of their own product, and difficulties in solving problems tied to the divergent interests of stakeholders and to market access due to imperfect competition.

Complex issues arise in the very process of the legal protection of the GI. According to the procedural definition of public goods, the characteristics of the process that leads to GI protection and culminates in the redaction of product specifications are a key issue for defining the profiles of publicness of the GIs. Product specifications are the result of a complex process of negotiation, which involves a great number of stakeholders, from firms at different stages of the supply chain to public authorities who all greatly affect the outcome of the process (Cuntigh, Jullien, & Smith, 2005) in various different ways. They therefore reflect different attitudes and heterogeneous interests (Canada & Vazquez, 2005; Dentoni, Menozzi, & Capelli, 2013). The examples of both coffee and wine show that the process of developing a PGI product is not linear, rather it evolves according to trials that can be economic, technical, social or legal, and can be interpreted as a learning process.

These problem-solving mechanisms do not really work for PGIs designed with top-down approaches, as is the case with some coffee; as a consequence, the risk is that the PGI remains purely administrative, without the genuine involvement of producers and with a very low level of use. On the contrary, when the GI process is more participative, conflicting logics and interests among actors can emerge, each one potentially generating different effects on local public goods and on different sustainability issues in the economic, social, and environmental spheres. The definition of collective rules in the product specifications may generate the exclusion of less empowered categories of stakeholders and/or a poor consideration of specific local resources such as traditional production techniques and local plant varieties (Galtier *et al.*, 2013).

Empirical evidence shows that there are often trade-offs between different (private and public) goals which are very common. Joint resolution of these trials is a fundamental step toward product specifications and calls for the genuine involvement of all the relevant stakeholders.

After legal recognition of the GI, two main failures emerge from coffee and wine analysis. The effective use of the GI by local firms is often low, mainly due to supply chain and market constraints, firms lacking competences and/or investments needed for compliance with product specifications and traceability/certification systems. Even when the GI is actually widely used by firms in their marketing strategies, the added value generated by the marketing of the product can be unfairly distributed between firms belonging to the different stages of the supply chain, with the upstream phases of the value chain, in particular small farmers, often being excluded from benefits. The added value can be not devoted to the reproduction or remuneration of locally specific resources used in the production process; this can jeopardize the renewal of these resources, thereby threatening the very identity of the OP and the sustainability of the whole production system.

In time, due to external changes in market conditions, new legislation, climate change, and internal events including changes in the number and typology of firms using the GI or in collective marketing initiatives, new economic, social and technical trials may lead to an increasing divergence between the different actors' interests and strategies (Neilson, 2008). All this may lead to new coordination problems in the domains of public goods construction and use. Resolving these problems involves the revision of individual and collective strategies, new alliances and above all, institutional changes (Barham, 2003).

Therefore, after the recognition of the GI, the issue of collective governance emerges as central to the various types of PGI wine and coffee products. The PGI is a sign of quality jointly available to many firms, and as such, requires some collective form of management. Interactions between stakeholders and governance models also lead to the design of collective marketing trajectories in the GI production system, and the organization of the redistribution of quality rent within the value chain and the production area. After registration, the PGI is often managed by associations that bring together firms placed at the different phases in the supply chain. This is usual for wine in Europe, where the PGI are managed by inter-professional bodies or consortia. For coffee, some large PGIs are directly managed by public organizations or market authorities; in this case the issue of producer involvement arises (Coe, 2006). Collective marketing initiatives aimed at promoting the GI brand on the market are widespread for both wine and coffee; in the case of wine, the costs are frequently shared between firms according to how much they use the GI (Carter, 2012; Touzard *et al.*, 2008). Some wine PGI consortia, the best-known of which is Champagne, promote agreements between farmers and processors that define minimum prices for grapes according to quality parameters, to ensure a fair return to farmers (Chambolle & Saulpic, 2006).

The degree of farmer participation could be of great importance to some profiles of publicness. In fact farmers are closer to resource management than other supply chain actors (environmental profile), and the participation of small-scale farmers is relevant also for economic and social profiles. Although the way in which the Product specifications are designed places great stress on the management and use of the PGI, there is no absolute correlation between the type of recognition process, (either top-down or bottom-up), and the features of governance models. The combination of bottom-up and top-down processes can change over time for the same PGI: initiatives supported by outside public and economic actors can lead to the successful involvement of local producers (Niederle & Gelain, 2013), while projects promoted by a local coffee or wine grower organization can succeed in creating a mechanism of control and guarantee integrated by public policy, as has occurred at different periods in the history of the French AOC (Teil *et al.*, 2011; Touzard, 2000) Recognition and efficient management of both PGI products and associated public goods depends on these combinations. However, the most successful examples emphasize the key role of a regional trade organization which provides long-term coordination between both bottom-up and top-down processes, for example, Champagne and Porto wines, Café de Colombia, and many coffees belonging to type 3. Economic, technical, social and legal trials can also cause severe disruptions in the trajectories of PGI wines after their legal recognition (e.g., Banyuls wine), generating a variety of failures and uncertainties, but also sometimes opening new opportunities for launching a new phase of PGI product development.

A last point is the importance of consumers and the general public, who can recognize the PGI as a public good in its different profiles of publicness, beyond the status of a club good that only benefits producers. The acknowledgment of the collective dimension of PGIs by a broader community than that of supply chain actors calls for the involvement of consumers and the general public in a learning process about the relationship between PGI products and public goods.

(b) *Diversity of public interventions relating to the ties between PGI and public goods*

Empirical evidence from wine and coffee PGIs shows that the role of the state and, more generally, of public action, should take different forms according to specific countries and product situations, and do more than simply provide a legal framework for GI protection. The whole local qualification process of OP and GI products is involved, which calls for both collective action (see Section 4(a)) and proactive public policies, which are justified by their multiple and specific ties with public goods, and inspired by such principles as inclusion and participation, equity and justice (Hess & Ostrom, 2007). The key roles public policies can play in strengthening the tie between PGIs and public goods, as emerge from case studies and GI typologies, are as follows:

- Definition of the GI legal recognition procedure: supporting the political process that builds the legal framework for PGI, providing legal rules inspired by the participation and inclusion of all involved stakeholders in the rule design process, and in particular of more marginal actors (e.g. small farmers in coffee). Avoiding an “appropriation” of the PGI by stronger actors is a key issue for economic and social effects of the PGI;
- Empowerment, of producers as well as technicians and consumers: pre-GI protection in order to make stakeholders’ participation to PGI design process effective, and post-GI protection, to ease access to the PGI system. Key actions include promoting general information on PGIs, including inventory, knowledge diffusion of their characteristics and possible impact, providing technical assessment oriented to actors involved in local resource management and quality issues, and supporting initiatives that develop training on business models dedicated to PGI products;
- Support of collective action and governance of the PGI before and after its legal protection, in particular with reference to quality construction, (research into ties between specific local resources and traditional production methods, and specific product quality; assessing for product specifications, solving technical, economic and legal problems), PGI management (control systems, organizational support, technical assistance for small farmers and firms complying with formal rules and certification processes) and improved awareness of local resource management (conditions of use, preservation, promotion, negotiation with other actors);
- Support of long-term investments and adaptation strategies including research and innovation, foresight studies, in particular where climatic change and food security are concerned.

To fulfill these roles, public policy must work together with collective and private actions to varying degrees, depending on the profile of publicness and national context. We find here a possible application for Ostrom’s theories on common goods (Ostrom, 1990) and a possible extension of her work into different types of public goods. The absence or nonrecognition of publicness calls for private governance; pure nonrival and nonexcludable public goods, or goods of collective national

or global interest require strong public control, without necessarily relying on direct management by the state. Intermediate situations, especially club goods, common goods, or goods of territorial interests are best managed by collective forms including local organizations, under a set of institutional conditions detailed by Ostrom (2010). In the case of PGI products, the tie to territorial origin which is progressively integrated into the quality convention of the product leads to the joint consideration of the nature of the goods and the nature of its ties to regional and sectorial public goods. This approach to PGI therefore justifies polycentric governance of PGI products involving firms, collective actors, and State and a multilevel governance, from local to international.

However, the changing nature of PGI product publicness as demonstrated in the cases of coffee and wine, requires changing public intervention. Strong public support may be necessary during the recognition phase of OPs and GIs and the construction and launching of PGIs, when significant investments are needed to demonstrate the ties between GI product and territory, as well as to empower all categories of actors in the GI building process. Public support is justified here by the ties between the GI and local public goods. A significant reduction of direct public support seems appropriate in the case of successful PGIs products, controlling the ties to public goods but leaving inter-professional bodies to be responsible for management and marketing activities. Finally, a specific public intervention can rationally support producers when PGI products are facing crises or failures in specific ties to public goods.

Public action may also ensure coherency (i) between the different dimensions of sustainability or different profiles of publicness that are tied to the PGI product, and (ii) between PGIs and other signs or labels such as organic, ethical trade and some regional or collective marks that use publicness to justify their legitimacy. Public policy should thus be designed progressively, taking into account concrete institutional and cultural aspects. However, governance design challenges the very nature of national and local political systems, and this should ensure that polycentric governance works, especially by promoting local producer groups in the economic and political space.

5. CONCLUSIONS

This paper shows that GIs present many profiles of publicness which are also highlighted thanks to a procedural definition of public goods that integrates the standard profile and can be strengthened by legal protection. PGIs publicness results from the specific features of the GI production process, from the special economic and social effects on the territory, and from the role GI plays as a territorial public good and as a supply-chain public good. The valorization of GI products can play a relevant role in activating and supporting local sustainable development processes in rural areas. Nevertheless, these effects are not automatic, and these strong ties of GI products to public goods may also involve a number of potential negative effects that must be carefully assessed and managed.

As a consequence, the contribution of PGIs to public goods and sustainable development calls for the appropriate regulation of their production and consumption, and for the removal of different obstructive factors that can block PGI valorization initiatives, as highlighted in this paper.

Different areas of intervention for collective action and public policies are appropriate in order to exploit the potential tied

to PGI products, because of the multidimensional nature of the OP. These extend from intellectual property regulation to agricultural markets policy, from social policy to food safety regulation, and from natural local resource preservation to food culture and tourism promotion. Thus, different policy levels are put forward, from international and national, down to very local. Institutional settings are needed to facilitate the proper coordination of different policy levels and policy

actors, and to tie the PGI policy to general local rural development policy.

At the same time, there are also many threats tied to public policies which can block private initiative and create useless or ineffective PGI products. The support granted to PGI products as providers of local public goods requires the right mix of public and private initiatives, leaving room for collective management.

NOTES

1. In this paper the term “Protected geographical indication” (and its acronym PGI) is to be understood in a general sense and not as it is used in European Union legislation – Reg. (EU) 1151/2012, which distinguishes between Protected designations of origin (PDO) and Protected geographical indications (PGI). In this paper PGI is used to designate both EU PDO and EU PGI.

2. In particular, the authors have directly carried out research on coffee GIs in the Dominican Republic (Galtier, Belletti, & Marescotti, 2013), Jamaica (Belletti & Marescotti, 2010), and Kenya (Barjolle *et al.*, 2013), and on wine GIs in France (Ollagnon & Touzard, 2007; Ollat & Touzard, 2014; Touzard, 2000; Touzard, Chiffolleau, & Laporte, 2008) and in Italy (in particular on Tuscan wines: Marescotti & Nunziatini, 2010).

3. The TRIPS Agreement (Article 22.1) defines geographical indications as “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”.

4. The exact characteristics in terms of rights of use also depend on the features of the legal framework, and on the choices made by stakeholders.

5. In addition to the field research conducted directly by the authors, reference is made to case studies quoted in the literature on the subject, and to many case studies and research reports, such as Giovannucci, Josling, Kerr, O'Connor, and Yeung (2009), Hughes (2009), Gerz and Avelino (2007).

6. For example in Colombia Coffee prices are tied to social stability and violence, as demonstrated by Dube and Vargas (2006).

7. See also Los Santos (Costa Rica) and Pluma Hidalgo (Mexico) case studies, as reported by Schroeder (2007).

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