

THE ECONOMICS OF GEOGRAPHICAL INDICATIONS: TOWARDS A CONCEPTUAL FRAMEWORK FOR GEOGRAPHICAL INDICATION RESEARCH IN DEVELOPING COUNTRIES

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1. INTRODUCTION

Over the past two decades, agrifood systems have experienced a significant move towards market differentiation and product proliferation in many parts of the world. This product proliferation and differentiation is associated with what Allaire (2003) described as “the immaterialization of food and the institutionalization of quality”, which is translating into an increasing complexity of quality and new quality conventions. These institutions go beyond the neo-classical model of market pricing and quality signaling through price mechanisms, to instances where institutions that define and enforce quality standards and norms become key to the performance of market mechanisms. As stated by Sauvée and Valceschini (2003): “In the current competitive universe, the definition of quality and the information on qualities are from now on at the heart of the competitive strategies of economic actors”.

The growing demand for and attention to the “qualities” of agrifood products is a result of a range of factors such as the increased awareness of food safety, the socio cultural status of consuming certain foods and renewed interest in and nostalgia for culinary heritage (Ilbery and Kneafsey (2000)). Origin-labeled products are an important example of this, as trends in the food sector over the past decade indicate that consumers are increasingly placing value on products they can associate with a certain place and/or special means of production (Ilbery and Kneafsey (1998)).

Given the global competitive environment characterized by declining agricultural commodity prices, this trend towards traditional and/or quality products with a strong cultural link provides producers of value added products with a strong link to a particular geographical origin, with the opportunity to move away from commodity markets into more lucrative niche markets through differentiation. As such, territorial origin becomes a strategic tool for differentiation in agrifood markets. However, the success of such a marketing strategy depends largely on whether there are measures in place that ensure localization of production. As a result, international rules for the regulation of origin-labeled products have become increasingly important in recent years. Geographical indication (GI) protection has, however, proved controversial with respect to the nature and the scope of the protection to be granted, as reflected by the divisive debate that ensued during the TRIPS negotiations where countries’ desire to protect this IPR has largely been based on political pressures both domestically and internationally as well as the perceived economic impact of protection.

As with other distinctive signs, the economics underlying the protection of localized products is founded on the economic theories of information and reputation. These theories illustrate the

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importance of (1) preventing the market distortions that arise when there is asymmetry of information between producers and consumers and (2) averting the consequences of such asymmetry of information on the level of output quality (OECD (2000)). Reputation, as used in studies of markets characterized by imperfect information (Stiglitz (1989), Tirole (1988)), aids to an extent to overcome the market failure associated with asymmetry of information. However, the successful use of reputation to restore efficiency to the market through averting the consequences of information asymmetries requires that that reputation be protected through a process which can be viewed as the “institutionalisation of reputation” (Belletti (1999)). Distinctive signs such as geographical indications can achieve this by institutionalising the relationship between the product and the region and/or tradition through the use of legal instruments that prevent the misappropriation of benefits. Geographical indications can thus be viewed as the result of a process whereby reputation is institutionalized in order to solve certain problems that arise from information asymmetry and free riding on reputation. This highlights a fundamental feature of GI protection i.e. that it functions as both a consumer protection measure (through addressing information asymmetries and quality) and a producer protection measure (through its role in protecting reputation as an asset) (OECD (2000)).

Apart from, and partly as a consequence of, the economics underlying geographical indications, both European policies and the literature emphasize the potential of geographical indications to improve rural livelihoods based on local resources (Pacciani *et al* (2001)) and, thus, advance rural development. Worldwide, rural communities have developed typical products based on the interaction between local know how (including selection, production and processing) and particular environmental conditions such as the soil and climate (World Bank Report (2004)). However, the market does not necessarily reward the value added to these traditional products and when it does the added value does not necessarily accrue to the producers. This is to a large extent due to a lack of a well-defined and recognized characterization of the product or to a lack of regulations and enforcement mechanisms. The legal recognition of geographical indications provides an institutional tool through which to address these problems and consequently provide rural communities with the opportunity to valorize their local production and extract rents based on local *savoir faire*.

These dimensions highlight the three basic objectives pursued through GI protection, i.e. consumer protection, producer protection and rural development. Various related objectives are pursued under these broader objectives and include objectives that flow from GI categorization as an IPR. The different dimensions and objectives of GI protection give an insight into the multidisciplinary nature of the subject that includes legal, economic, social and political dimensions. Despite this, geographical indications have, to date, largely been studied from a legal perspective of reconciliation between alternative ways of granting protection to producers from usurpation of names and signs (O’Connor (2004)). Much research remains to be done on the underlying economic impact of geographical indications, especially in a developing country context. The central tenet of this paper is the identification of the different economic dimensions to GI protection and the methodologies and approaches that have been used to study these. The paper starts with a typology of the institutional frameworks facilitating GI protection. This is followed in section 3 by an exposition on the economic rationale for protecting geographical indications. The paper intends to arrive at an integrative approach to studying geographical indications and/or their potential in developing countries. To this effect, section 4 of the paper provides a synopsis of the different methodologies employed to assess the different economic dimensions of geographical indications. Finally, section 5 develops a conceptual approach to studying geographical indications in developing countries.

2. THE INSTITUTIONAL LANDSCAPE

2.1 Different Legal Approaches to Geographical Indication Protection

The different dimensions of geographical indications are closely embedded in the different legal and institutional frameworks that facilitate their protection. During the TRIPS negotiations a divisive debate ensued regarding the nature and scope of protection to be granted to geographical indications. Fundamentally, two different approaches to protecting them emerged. The first relies on existing intellectual property and unfair competition laws. Certain countries, such as the US, argued that geographical indications are sufficiently protected within this framework. The second approach to protecting geographical indications is through legislation specifically designed for this purpose. The European Union, for example, argued that they are not sufficiently protected within existing trademark laws and thus demanded *sui generis* protection and the establishment of a multilateral register.

The TRIPS Agreement is not prescriptive in its approach to GI protection and requires merely that member countries provide the “legal means” by which to prevent “(a) [...] the use of any means [...] which misleads the public as to the geographical origin of the good [...] or (b) any use which constitutes an act of unfair competition [...]”. Countries are thus free to regulate the protection of geographical indications at national level, provided it complies with the minimum standards set by TRIPS. As a result, countries have elected to either follow the EU approach and promulgate *sui generis* legislation or implement the US philosophy of protection under existing trademark laws. Various developing countries have moved towards the protection of geographical indications through different legal approaches. India has, for example, promulgated legislation which allows for the registration of a geographical indication *per se*. Other developing countries, including South Africa, have thus far elected to protect geographical indications under trademark laws. The divergent approaches all differ with respect to the degree of government involvement, monitoring of use and enforcement. The merits of the divergent approaches have been widely debated and will not be explored in this paper.

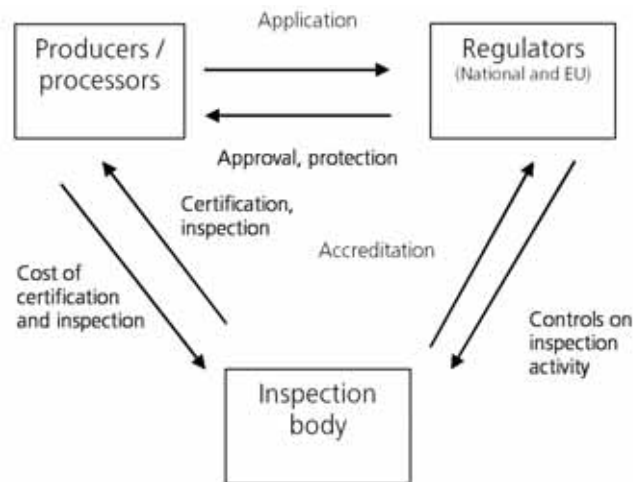
2.2 Organization and Control

Depending on the legal system granting protection to geographical indications, issues of control and organization are addressed differently. In contrast to trademarks, which are distinctive signs identifying goods of an enterprise and thus not limited by any territorial link, geography is at the heart of geographical indications (Marsden (1998)). This geographically intertwined nature of geographical indications has certain implications for the organization and control of origin-labeled supply chains. As Belletti and Marescotti (2002) mentioned, origin-labeled products are very often characterized by a “collective dimension” in the sense that they are linked not only with the skills of many producers and/or processors but also with locally created public goods and with the history, habits and culture of the local community. This requires the creation of collaborative networks through which many actors jointly manage the common product in the same way a single firm might do (Barjolle and Sylvander (2002)).

These actors can be highly heterogeneous in that they may or may not be directly involved with production and distribution activities. Also, they may be of an individual or collective nature and, if they are of a collective nature, they may be public institutions or producer/processor organizations (Pacciani *et al* (2001)). It is often assumed that the activities associated with producing an origin-labeled product are located within the territory. However, this disregards the many non-local actors who participate in the production of an origin-labeled product.

This diversity of actors leads to a diversity of objectives which are pursued through valorization of the origin-labeled product. Often these objectives go beyond the goal of profit maximization to include other socio-cultural objectives. This diversity is well-illustrated with reference to the valorization system in place in the EU. Protection for origin-labeled products under EU Regulation No. 510/2006 is structured around three groups of participants: producers/processors, regulators and inspection agencies (Figure 1).

Figure 1. EU-Protected Designation of Origin and Protected Geographical Indications System



Source: Hayes *et al* (2003)

Although these actors remain economically and legally independent while producing and marketing the common good, they are linked in that their activities result in a particular origin-labeled product whose main characteristics are determined in the code of production. This peculiar manifestation of independence/interdependence between producers of the common good, each pursuing its own objectives, emphasizes the fact that origin-labeled products stem from a collective process. Menard (2000) stated that there are various advantages associated with cooperation and collective production: (1) economies of scale in the acquisition of information; (2) risk-bearing among the group when facing unanticipated contingencies; (3) mitigation of adverse selection and moral hazard; (4) increased productivity due to a more developed "sense of responsibility". However, he highlighted that there are also limits and costs to cooperation, resulting from: (1) free-riding strategies through selection of members (*ex ante*) and malingering behavior once selected (*ex post*); (2) collective decision-making that may hamper the advantages of command; (3) incentives to collude and develop side payments; (4) the high cost of processing information and communicating in a team oriented organization.

These advantages and limits associated with collective action bring to the fore the importance of co-ordination and organization in producing an origin-labeled product, a point which is reiterated throughout the research on typical products (Barjolle and Chappuis (2000)). In this regard, Chappuis and Sans (2000) identified co ordination in the supply chain as a prerequisite for the success of origin-labeled products and for the competitiveness of the firms producing and marketing them. Factors indicated by research as contributing to the need for coordination in origin-labeled supply chains include the type of product, in that they are strongly differentiated and with high value-added; the seasonal nature of a number of origin-labeled products; the location of some producers in regions where production costs may be higher. The most compelling reason seems to be the need to arrive, at the end of the processing stage, at a product with specific characteristics. In order to achieve the latter, Chappuis and Sans (2000) referred to certain activities that need to be addressed at a collective level.

One such collective activity is the need of the relevant group of producers and/or processors to define the relevant product by achieving consensus as to its characteristics and the delimitation of the production area. Definition of the product should take place in accordance with the market and differentiation objectives. Consensus on the product definition can be considered the minimum level of agreement between participating actors as it determines the product characteristics as well as those entitled to produce it. Product specification will furthermore determine the possibility of innovation and could thus limit producers regarding product development. As such, it forms an important aspect of the negotiation between participants establishing the geographical indication. The product definition is embodied in a code of practice which constitutes the first collective activity within the supply chain. A liberal code will allow for the production of a wide range of products using the same designation. This strategy, however, should be avoided as it could lead to unfair competition and could mislead consumers. In contrast, a strict code strengthens the image of a unique product and reduces differences in production techniques between firms. Defining the product necessarily raises the issue of exclusion, further necessitating collaboration and coordination between all stakeholders in defining the common good.

A further activity that highlights the collective dimension of geographical indications is that of control. Once a code of practice has been agreed upon, consensus is needed on how to ensure conformity to the product specifications. The collective nature of the production process necessitates controls to prevent free riding and opportunistic behavior. Each of the firms entitled to use the designation is dependant on the good practice of all the other firms in order to guarantee the quality and reputation of the product bearing the designation. The control function can be undertaken by external or internal institutions.

According to Barjolle and Sylvander (2002), coordination in the context of origin-labeled supply chains should be understood as the ability of firms to achieve collective and efficient product and market management. In assessing how effective coordination and cooperation is with regard to product management, Barjolle and Sylvander (2002) considered two factors: (1) the capacity to bring out the product's differentiation potential; (2) the ease with which each actor can appropriate the collective process. The latter refers specifically to the ability of the actors to adapt their individual strategies to the collective strategy. The first step to be taken in this regard is the negotiation of a code of practice. Thereafter, they must comply with the constraints imposed by the code and submit to the inspections agreed upon.

In judging coordination with reference to market management, the main issue is that of consistency. Barjolle and Sylvander (2002), for example, highlight the fact that a promotional policy will not succeed if the product is not differentiated, poorly defined or inadequately controlled. They also mention that quality grading will only be effective if payment for the raw materials is directly dependant on compliance with the quality criteria agreed upon. A further issue regarding coordination with reference to market management is the relationship between collective action and the scope left for each firm to vary product quality to suit its own strategy, as this allows firms to manage competition in segmented markets. In conclusion, it can be said that effective coordination allows producers to collectively devise a common marketing plan and to develop a competitive advantage around the product's specificity. Coordination thus becomes both a condition for and a result of the agreement between actors. As such, the capacity of producers to effectively coordinate has been identified (Barjolle and Sylvander (2002)) as one of the most important factors enabling a product to benefit from protection as a geographical indication.

3. ECONOMIC RATIONALE FOR GEOGRAPHICAL INDICATION PROTECTION

The economic rationale for protecting geographical indications fundamentally derives from the fact that place of origin may be used as a quality signal and that the resources of the region may be captured in the origin-labeled product as quality attributes (Pacciani *et al* (2001)). In the first instance, the informative meaning of the geographical name is emphasized in order to reduce information asymmetries. Where place of origin is used as an attribute, resources of the region are used to increase the value of the product. These resources could include aspects such as production techniques, varieties and species, but also resources that are general to the region such as landscape, environment and culture (Pacciani *et al* (2001)).

The added value derived from these resources leads to a differentiation based on product “qualities” and consequently to the creation of niche markets. The collective monopolies which result from the institutionalization process provide producers within origin-labeled niche markets the opportunity to protect and enhance their market and to transform the value added into an economic rent. Although this premium may be small, a geographical indication, by differentiating products by its area of origin, restricting supply and creating barriers to entry, may act as a powerful marketing tool which could improve market access.

A study by the OECD (1995) identified a number of factors that influence the success of small, rural enterprises that target niche markets. While numerous factors have an influence, two main factors emerged: market access and differentiation. The study found that one approach to addressing these factors is to work collectively in order to develop a competitive advantage. This approach is well accommodated within an origin-labeled valorization strategy confirming the economic rationale for protecting geographical indications.

Geographical indications, furthermore, may provide a strong rural development tool which has been recognized by the EU, as reflected in various policies and regulations. This rural development potential could indeed constitute a very powerful rationale for developing countries to embrace and support origin-labeled products within their territory.

In order to understand the increasing importance of geographical indications in the EU and further afield, the discussion which follows summarizes the factors which form the basis of the economic rationale for protecting geographical indications (for a more detailed discussion on the topic the reader is referred to Grant (2005)). The discussion draws on different economic theories to illustrate how the objectives of consumer and producer protection and rural development can be achieved through the use of geographical indications, in order to provide a theoretical framework which will contextualize the empirical analysis in section 4.

3.1 Information Asymmetries and the Role of Reputation

Marks indicating the geographical origin of goods were the earliest type of trademarks used by traders as a means to exploit local reputation through the use of distinctive signs to evoke a particular geographical origin (Rangnekar (2003b)). Although distinct IPRs, this association suggests similarity in the economic rationale for protecting geographical indications and trademarks. The economics underlying the protection of these distinctive signs is founded on the economic theories of information and reputation (Rangnekar (2003b)).

These theories demonstrate the importance of (1) preventing the market distortions that arise when there is asymmetry of information between producers and consumers and (2) averting the consequences of such asymmetry of information on the level of output quality (OECD (2000)).

Nelson (1970) showed that consumers do not have perfect access to information regarding the prices of goods, and even less so to the quality of the goods.

He classified goods on the basis of how information is accessed by and/or conveyed to consumers as summarized in Table 1.

Table 1, Classification of Goods Based on Access to Information

Search goods	Consumers can ascertain quality prior to purchase through inspection and/or research
Experience goods	Consumers can ascertain quality after purchase through use and experience
Credence goods	Neither prior inspection nor subsequent use is sufficient to ascertain quality

Source: Nelson (1970)

The problem of asymmetric information, thus, stems from the fact that the producer knows the product attributes while consumers do not and can only determine them through search or experience, or cannot determine them at all (OECD (2000)). This information gap leads to typical market information problems in the form of adverse selection and moral hazard, originally described by Akerlof (1970) in his work on the market for second-hand cars. The relevance of these problems in the case of agricultural products is that food products, in terms of the categorization in Table 1, display characteristics of all three types of goods (Rangnekar (2003b)). As food markets are characterized by varying qualities, only the producer is aware of the product's quality in advance, while the consumer runs the risk of buying an inferior product due to adverse selection. It is clear that information asymmetry impacts negatively on the market: the quality of total supply drops, higher-quality products are driven out of the market and some consumers will no longer be able to satisfy their preferences (OECD (2000)). Producers maintaining the quality of their products are exposed to unfair competition from producers who sell lower quality products at the same price. In order to protect themselves against such behavior, consumers adopt various strategies. These include the making of repeat purchases, developing a strong sense of brand loyalty and a willingness to pay a premium for reputation. In response, producers adopt strategies for creating reputation in their products.

The concept of reputation, as applied to studies on markets where there is imperfect information (Stiglitz (1989); Tirole (1988)), aids in overcoming the market failure associated with asymmetry of information. In his model on reputation, Shapiro (1982) and (1983) analyzed the firm's choices regarding the quality level of its production with a view to maximizing profits in a situation where it is assumed that markets are perfectly competitive but information is imperfect. He stressed the importance of the dynamics between the following three elements: firm's reputation, consumer learning and the seller's choice of product quality. If product quality cannot be observed in advance, consumers tend to use the quality of products offered by the same producer in the past as an indicator of future levels of quality. According to Shapiro (1983) reputation thus embodies expected quality in that individuals extrapolate past behavior to make inferences about likely future behavior. This value judgment develops over time creating an intangible asset whose value is given by capitalization of future price premia (Belletti (1999)).

In instances where purchase decisions are based on product reputation, producers who decide to produce for the high-end market are forced to invest in reputation. Often this period of investment requires the producer to sell his product below production costs until reputation has been established (OECD (2000)). The need to make initial investments means that, in an equilibrium scenario, high-quality goods must be sold at premium prices (OECD (2000)). This premium represents the return on the initial investment to establish the reputation (Shapiro (1983)). Given this, products which enjoy reputation earn a premium that is sustained even at equilibri-

um (Rangnekar (2003b)). Rangnekar (2003b) explained that the premium earned is proportional to the lags associated in consumers learning the true quality of a product. It follows from this that a producer will only be motivated to improve its product quality if consumers undergo a learning process regarding the quality of its products. The premium can thus be justified based on the role reputation plays in reducing information asymmetries as well as its role in preventing short-term compromises in quality. This allows a reduction in the actual price paid by reducing search costs for the consumer. In the context of information asymmetry, reputation thus becomes both an inducer and indicator of quality (OECD (2000)).

However, the successful use of reputation to restore efficiency to the market through averting the consequences of information asymmetries requires that reputation be protected through a process which can be viewed as the “institutionalisation of reputation” (Belletti (1999)). Distinctive signs such as geographical indications are one way of achieving this, by formalization of the relationship between the product and the region and/or tradition, achieved through the use of legal instruments that prevent the misappropriation of benefits. These signs embody reputation in that they signal a certain level of quality.

The collective nature of geographical indications as a quality signal means that use of the sign is not limited to a single producer but to all producers within the designation which adhere to the code of practice. Product reputation is thus the result of the actions of different agents active in the same area of production and is projected through tradition over a period of time (Marty (1998)). In conclusion, it could thus be said that geographical indications are the result of a process whereby collective reputation is institutionalized in order to solve certain problems that arise from information asymmetry and free riding on reputation (Belletti (1999)). As such, the above-mentioned theories of information and reputation highlight two important features of GI protection i.e. that it functions as both a consumer protection measure (through addressing information asymmetries and quality) and a producer protection measure (through its role in protecting reputation as an asset) (Rangnekar (2003b)).

3.2 Improved Market Access

Apart from its role in overcoming the detrimental effects of information asymmetries and free riding on reputation, geographical indications also reflect characteristics and values associated with a region and thus regional quality. As such, territory goes beyond its purely informative role and acquires the characteristics of an attribute (Pacciani *et al* (2001)). The resources of the region (landscape, cultural and historical resources and local *savoir faire*) become embedded in the origin-labeled product, thereby synthesizing the territorial attributes in the product name. It is this characteristic of territory as an attribute that translates into improved market access for products bearing a geographical indication, through the development of a sustainable competitive advantage.

As such, the economic value of geographical indications is to a large extent based on the economics of differentiation and niche marketing. This “socially constructed differentiation” allows small producers to create a competitive advantage similar to that of a trademark. However, Alavoine-Mornas (1997) warned that the originality a typical local area brings to a product can only lead to a differentiation if consumers recognize its value. This highlights the fact that in some instances niche marketing through origin-labeling may require an extensive awareness campaign in order to capture the benefits associated with differentiation. Also, it should be noted that various factors could weaken the territorial associations consumers have with a product. These factors include aspects such as packaging, processing, distribution and marketing. In certain instances technical aspects of production and/or processing can override features of the product that are intrinsically linked to its area of origin (Rangnekar (2003a)).

Geographical indications act as a strong differentiation tool through the creation of collective monopolies. Seemingly a *contradictio in terminis*, the existence of monopolies consisting of a group of firms was argued by Olsen (1962): "The concept of industry in pure competition, which is everywhere acknowledged, is based on assumptions that are perfectly parallel to those required for the concept of industry in monopolistic competition, which is often denied." (Thiedig and Sylvander (2000)). Cornes and Sandler (1996), as cited by Thiedig and Sylvander (2000), defined a club as "a voluntary group of individuals who derive mutual benefits from sharing one or more of the following: production costs, membership characteristics or a good characterized by excludable benefits".

These collectives further exhibit the characteristics of a monopoly in that they segment the production market and erect barriers on producers which limit entry at two levels. First, only producers within the demarcated area qualify for participation. This is followed by another barrier in that, within this region, only producers who comply with the code of practice fall within the collective. These institutional barriers which are created by limiting the use of the designation and defining the product and production process facilitate the formation of a monopoly which encompasses all producers within the designation who comply with the code of practice. As a result, protection of geographical indications imposes, with reference to producers outside the designation, a monopolistic market structure, given the causal link between a product and its origin which results in a proprietary right for those entitled to use it. The monopoly thus created is not unlike that which is legitimized under trademark law by allowing a "monopolistic right" to a trademark. However, for producers located within the designation, geographical indications retain local, public good characteristics of non-rivalry and non-exclusion. By limiting entry and functioning as a barrier to trade, these collective monopolies thus eliminate competition from similar products produced elsewhere, thereby improving market access for those producers entitled to use the designation. It is, however, important to bear in mind the exclusionary effects which flow from this monopoly formation. This aspect is of particular importance in the developing country context and potential difficulties associated with delimiting production areas should not be overlooked.

Various studies (e.g. Thiedig and Sylvander (2000)) allude to the fact that the collective monopolies which result from GI protection enable producers to capture a premium. That there is indeed a premium to be captured in locality is reflected by the fact that French origin-labeled cheeses earn an average of two euros per kilo more than French non-origin-labeled cheeses. French *poulet de Bresse* has a market price four times higher than regular French chicken. Producers of milk used for Comté cheese are paid 10 per cent over regular milk prices. Similarly, producers of Italian Toscano olive oil have managed to earn a premium of 20 per cent since registration as a geographical indication in 1998 (EU Background Note (2004)).

The size of the premium is dependent on a number of factors such as market size, degree of competition with substitutes, consumer perceptions about the linkage of an indication with product attributes and demand elasticity (Correa (2002)). However, in all instances the premium seems to favor authentic and distinctive products linked to a specific area (Correa (2002)). The premium captured by products displaying a geographical indication suggests that some form of value is embedded in the use of this IPR. This value is a mixture of economic, cultural and social values which derive from locality. Those actors using a geographical indication are thus pursuing a valorization strategy whereby intellectual property is harnessed in an attempt to appropriate these values which allow for the extraction of rent. It should be noted, however, that studies (Loureiro and McCluskey (2000)) indicate that some geographical indications, particularly those lesser known and of lower quality products, may earn small or insignificant price premiums and that a geographical indication does not in all instances result in a price premium.

3.3 Rural Development Potential

Apart from, and partly as a consequence of, the factors identified above, the most fundamental rationale for protecting geographical indications in the EU is found in the rural development potential of origin-labeled products. Both European policies and the literature highlight the importance of supporting origin-labeled products to achieve rural development objectives. Origin-labeled products, by definition, reflect a strict link between product and origin given that the product derives its unique characteristics from the climatic, human and technical environment of the region. As such, origin-labeled products are one of the most evident manifestations of locality and are often considered useful instruments through which to preserve local culture and traditions and to foster rural development, especially in disadvantaged areas (Pacciani *et al* (2001)).

In the developing country context, geographical indications could provide a tool by which rural producers can enter niche markets and attempt to extract a premium, thereby contributing to improving their living conditions through increased incomes. Furthermore, the link between an origin-labeled product and its territory derives not only from paedoclimatic specificities and its strong link with localized specific production assets; it also derives from local culture as it characterizes the “historical memory” of the local population and represents a catalyst of identity (Bérard and Marchenay (1995)). As such, geographical indications draw from both natural and human resources located within the territory, thereby stimulating all the components of the rural economy.

According to Pacciani *et al* (2001), the rural development impact depends on the extent to which local actors succeed in appropriating the rent with respect to actors located outside the territory. The potential of appropriating this rent is closely tied to the ability of local actors to create institutional processes that can regulate the use of these free goods (Pacciani *et al* (2001)). The possibility of enhancing rural development through the use of geographical indications is further dependent on exogenous factors such as the nature of the product as influenced by the level of elaboration, the characteristics of the production process, the marketing channels allowed by the nature of the product, the impact on the landscape and environment, the role of the product in the local culture as well as the structure of the supply chain (Pacciani *et al* (2001)). In addition, the possibility of activating sustainable rural development strategies based on an origin-labeled product depends on the strength of the link between the product and the local community. This would depend to an extent on the identity of the product and its importance in the region. Sylvander (2004) warned, however, that it is not the institutionalization of the resource origin *per se* that enhances development. Instead, the developmental impact of origin-labeled strategies is dependant on how the process is developed, and on the effectiveness of the valorization strategies built upon it (Sylvander (2004)).

In assessing the impact of origin-labeled products on rural development, a multifunctional approach should be followed, accounting also for “secondary” development objectives such as the preservation of biodiversity and traditional knowledge. As such, Sylvander (2004) advised that the assessment of the developmental impact should not be limited to the standard criteria (higher prices, increased sales and employment and income levels). Instead, the distribution of rents within the rural area, the level of participation of local actors, the sustainability and reproduction of the social system and the environmental impact are all factors which should be considered.

Finally, it should be kept in mind that the rural development potential of geographical indications is dependent on an inclusive and representative industry organization that ensures participation of local actors and an equitable distribution of rent. Of particular concern in a develop-

ing country context is the danger of large agribusiness capturing the rents embedded in the geographical indication without any benefits flowing to smaller, rural actors who are often the original custodians of the local resource. Policies around geographical indications should, therefore, provide for the potentially exclusionary effects flowing from GI protection.

4. EXISTING METHODOLOGIES TO STUDY THE ECONOMICS OF GEOGRAPHICAL INDICATIONS

The purpose of this section is to investigate the main methodologies for studying the economics of geographical indications in the context of the economic rationale for their protection. This section draws on the theoretical framework provided in section 3 and provides a discussion and review of some of the empirical studies done with respect to the economics of geographical indications.

4.1 Reputational Effects

Economic theory highlights the role of reputation in alleviating problems associated with asymmetry of information between producer and consumer. In the case of origin-labeled products, the literature makes reference to product reputation as a factor which can yield a “rent” based on the tradition and quality of the product (Belletti (1999)). A significant body of literature investigates the issues related to the establishment of a producer’s reputation for quality when consumers have imperfect information. Although the theoretical literature on firm reputation is well developed, only a few empirical studies have been done. Of these, only a small number analyze the importance of collective reputation.

Belletti (1999) suggested the use of “quality premia” models of reputation developed by Klein and Leffler (1981) and Shapiro (1983) to explain the role of reputation in the case of typical products. The author departed from this frame of reference and reflected upon the mechanisms that give rise to the reputation of typical products. He investigated the importance of reputation in the process of development of typical products and addressed questions regarding instruments for protecting geographical indications under the EU Regulation. The case of Toscano extra virgin olive oil was studied and an outline provided of the process of constitution, crisis and institutionalization of the product’s reputation. The limited role of individual reputation as reflected by the value of the key parameters of the “quality premia” model is highlighted. The author explained that the relevance of exogenous and social factors in determining the specificity of typical products causes reputation to assume the character of a collective asset, making it partially the outcome of a non-intentional event. This is in contrast to “quality premia” models in which reputation results exclusively from the choices of the individual firms. The analysis by means of “quality premia” models allowed the authors to go beyond the understanding of reputation as “notoriety”, associating it to a set of product-specific investments sustained by the firms in the supply chain of a typical product. Analysis of the case of Toscano extra virgin olive oil demonstrates how the PGI contributes to a “recollectivization” of the reputation capital bound to the area of origin.

In their paper, Landon and Smith (1997) provided an empirical analysis of the extent to which consumers use reputation and current quality indicators when making purchasing decisions. The analysis is conducted by relating prices to the information that is available to consumers. Departing from the standard hedonic model of differentiated product price determination developed by Rosen (1974), the authors estimated and compared five models of price determination that differ only with respect to the quality-reputation information available to consumers. The authors estimated the models using data from the market for Bordeaux wine.

Collective reputation variables are based on government-determined Bordeaux regional designations and industry-determined quality classifications. A limitation of this approach is the fact that the results are based on data of only one product. The data set does, however, include a large number of observations. The study concludes that a model which combines individual reputation and collective reputation variables provides a reasonable description of the information used by consumers, with collective reputation being based on the quality of the product produced by an individual firm on the average quality of the goods produced by a group of firms with which the individual firm is identified. The result suggests that consumers place considerable value on mechanisms that provide information on past quality. The study further indicates that the price premium associated with the collective reputation variables is as large as that associated with individual firms' reputations. The authors point out that the high value that consumers place on the government-determined regional designations and on the industry-determined quality classifications suggests that both government and industry can meaningfully provide information product characteristics.

In a further study based on the same type of model in which price is a function of current quality and expected quality (where expected quality depends on reputation), Landon and Smith (1998) deepened their analysis and empirically estimated the magnitude of the impact of reputation and current quality on price, again using data from the market for Bordeaux wine. The analysis again distinguishes between the impact on price of both individual and collective reputation. In developing the model, the authors proceeded to jointly estimate the equations determining price and expected quality. The results indicated that the price of Bordeaux wine depends significantly on both expected and current quality, but that the marginal impact of expected quality on price is approximately 20 times higher than that of current quality. The results further indicated that consumers consider a long-term reputation for quality as a more significant indicator of current quality than recent quality improvements. The authors deduce from this that it may take a considerable time for a firm to establish a reputation for high quality that would result in a significant price premium. The results also indicate that collective reputation indicators play a significant role in price determination principally through their impact on expected quality. According to the authors, one explanation why both current quality and expected quality (reputation) are significant determinants of price may be that there are different types of agents in the market, some of whom are better informed about current quality than others. Alternatively, consumers may view observable quality as "noisy indicators" of actual quality and may thus rely to a greater extent on the accumulated evidence embodied in reputation.

Winfree and McCluskey (2005) equated the reputation of a product to a common property resource exclusive to the firms marketing the product. Their work is based on that of Tirole (1996) and his idea of collective reputation where it is assumed that the firms in the group share a common reputation based on the group's past average quality. Using a dynamic optimization framework that utilizes tools from differential game theory, they showed that with positive collective reputation and no traceability, there is an incentive to extract rents by producing at lower quality levels. The authors furthermore illustrated that the sustainable level of collective reputation decreases as the number of firms in the production area increases. The authors concluded by proposing the implementation of minimum quality standards to sustain collective reputation.

4.2 Supply Chain Analysis and Transaction Cost Economics

Various aspects of geographical indications lend themselves to a transaction cost economics analysis. In particular, transaction cost economics provide insights into contractual and organizational issues of relevance in the GI context. Information economics (Kirmani and Rao (2000))

furthermore highlight the value of brands as a signaling device in order to reduce transaction costs, an analysis which can be fruitfully applied to the use of geographical indications.

In this respect, Raynaud *et al* (unknown) provided a transaction cost explanation of brand value. The authors explained the critical value of a brand to a firm since, from the perspective of information economics, brands are valuable assets because they economize on consumers' transaction costs. The more the brand contributes to reducing transaction costs (and with that, increasing information on product characteristics), the higher the value of the brand.

Raynaud *et al* (2002) studied the governance of transactions in the supply chain as a way to support the credibility of quality signals. It is assumed that the governance structures that are designed in the vertical chain try to guarantee the quality to the final consumer and that there is co-variation between the characteristics of a quality signal and the governance mechanisms in the supply chain. The authors set out to characterize the diversity of organizational forms found in the case studies and to explain this diversity by the heterogeneity of quality strategies. It is hypothesized that different quality signals give rise to different credibility issues and contractual hazards that in turn imply different governance structures. A structural analysis of 42 case studies in three different agrifood sectors was conducted in seven European countries. Following transaction cost economics, the study is essentially comparative and allows for comparison of the different governance methods. In particular, the authors built on Williamson's (1991) and (1996) work on governance structures to describe and compare the several bilateral governance structures observed. In order to analyze the governance of transactions in the different supply chains, the authors drew from Williamson (1996) and designed a typology of bilateral governance structures for each transaction. This method makes it possible to (1) disentangle different contractual relations and (2) to rank these relations on a market-hierarchy axis. In this study, however, the authors presented a more detailed classification to account for the diversity of situations (different sectors, different products and different quality signals, etc.). The study shows that when an agent creates a quality signal whose value can be influenced by several other agents in the supply chain, he will design the governance of transactions in order to assure product quality and improve the credibility of his signal.

Barcala *et al* (2007) studied governance aspects of the vertical chain and its impact on product quality. Different mechanisms of governance such as hierarchy, quasi-integration and geographical indications were analyzed to determine how organizational forms impact on product quality. A case study approach was used and the authors found empirical evidence in a set of international cases of quality brand names in the agrifood sector. The study found that quality problems may be ascribed to the high transaction costs, and that mechanisms of governance thus affect product quality. The results indicate that the most market-oriented mechanism of governance in the sample (quasi-integrations and geographical indications) need to introduce (1) coordination-oriented mechanisms such as norms and routines to perfectly define standards and attributes and (2) a complementary set of quality control devices based on direct supervision. Finally, the study found that the average price premium paid by consumers for quality products is much higher for geographical indications than in hierarchy-type cases. The authors concluded that the vertical chain could be more efficiently organized as a geographical indication than in the case of hierarchy in order to promote high-quality products.

Wilson *et al* (2000) conducted two case studies to examine the key factors behind the differences in market performance of two PDO products; early potatoes from the UK and from the Netherlands. They showed the influence of the differences in co-operation and co-ordination between the supply chains of the two products, which result in significant differences in product specification and traceability systems, and are associated with different consumer awareness and brand promotion efforts. The material for the supply chain analysis was based on empirical

research. Semi-structured in-depth interviews were conducted with representatives from the actors within the supply chain itself and the surrounding social, economic and political system. Furthermore, qualitative consumer research was performed for both products.

4.3 Welfare Analysis

Since there will be losers and winners (domestic as well as international) in the process of introducing geographical indications, it implies that there can potentially be a redistribution of welfare that could involve conflicts. Assessing the welfare impact of geographical indications is therefore a critical area of research in this debate. A review of the literature indicates that various studies have attempted to answer the question as to whether quality assurance and certification schemes improve social welfare. Although many of the studies are not directly applicable to geographical indications, many of the proposed methodologies can be applied fruitfully in a welfare analysis on them.

The DG JRC/IPTS Analytical Framework Report (2006) describes equilibrium displacement models as models that can be used to evaluate the impact on market equilibrium (prices and quantities) of a change in an exogenous variable affecting one or several supply or demand curves. These changes in equilibrium make it possible to calculate the impact on welfare of the different factors. Thompson *et al* (2006) provided a methodological framework for the analysis of regional marketing programs which include regional origin-labeling as well as quality assurance and control measures. An equilibrium-displacement model for a segmented market with differential qualities was developed that could be applied to a variety of regional marketing programs. The objective was to model the economic implications of state-financed programs assuring both quality control at a superior level and the regional origin of an agricultural product. To assess the direct and distributional effects of such programs, the authors developed a commodity market model, segmented by both product quality and regional origin. It showed that the price impacts on high-quality and low-quality segments depend crucially on substitutive relationships between markets and the advertising elasticities. It also showed that welfare implications for producers in a program depend on the costs of participation including quality control and on the co-financing mechanism between government and producers.

In her paper, Jackson (2002) analyzed the impact of quality-based labeling on product prices, factor allocation and the resulting effects on producers within the context of an international trading system. Rather than using a partial equilibrium model, a general equilibrium model was used, calibrated to 1998 data, describing US and EU labeling regimes for genetically modified agricultural products. The results of the study indicated that the labeling choices of trade partners have large distributive impacts within national economies, as well as across countries and highlight the importance of using a general equilibrium framework to understand the system-wide impacts of segregation and quality labeling.

Zago and Pick (2004) considered the welfare impact of EU Regulation No. 92/1081 on markets where goods of different qualities are sold. A model of vertical differentiation was used showing the situation where consumers cannot distinguish between the different levels of quality from those instances where the Regulation allows consumers to recognize differing levels of quality. The authors calculated the effects on equilibrium and welfare levels by simulating consumer and producer surplus as well as the equilibrium quantities and prices that emerged. Their findings indicate that the introduction of the Regulation and the emergence of two distinct differentiated but competitive markets leave consumers and high-quality producers better off, while low-quality producers are worse off. With high costs and low quality differences, the total welfare impact of the Regulation can thus be negative. The study also considered the possible

impact on market power and showed that when product differentiation increases market power, then consumers can lose even when producers gain. This highlights the need for any economic analysis of geographical indications to take into consideration the market structure, both before and after obtaining GI status. The study concluded that the impact on both consumer and producer welfare is ambiguous and depends on the characteristics of the product, on technology conditions and on the extent of market power.

Lence *et al* (2006) used a simple model to explore the incentives of individual agricultural producers located in a specific region to collectively undertake a differentiation strategy to market their products. They assessed the welfare and market effects of different producer organizations that vary with regard to the intensity of supply control and used their findings to highlight implications of their results for the EU/US debate. The authors found that as fixed and marketing costs increase and the anticipated market size falls, the producer organization's ability to control supply should be enhanced to cover the fixed costs associated with the introduction of differentiated products. Legal systems allowing for supply control favor Geographically Differentiated Agricultural Product (GDAP) development and can be welfare enhancing as long as they do not allow for more supply control than required to develop the GDAP. The authors found that stronger property right protection for producer organizations may enhance welfare even after product differentiation. Legal systems that limit the producer organizations' market power can result in large technological distortions.

Table 2. A Summary of Studies analyzing the Welfare Impact of Quality and Origin-Based Labeling

Author	Method	Findings
Thompson <i>et al</i> (2006)	Equilibrium-displacement model	<ul style="list-style-type: none"> • Price impacts on high-quality and low-quality segments depend crucially on substitutive relationships between markets and the advertising elasticities. • Welfare implications for producers depend heavily on advertising elasticities, costs of participation including quality control and on the co-financing mechanism between government and producers.
Jackson (2002)	General equilibrium model	<ul style="list-style-type: none"> • Labeling choices of trade partners have large distributive impacts within national economies.
Zago and Pick (2004)	Vertical differentiation model	<ul style="list-style-type: none"> • Consumers and high-quality producers are better off, while low-quality producers are worse off. • With high costs and low quality differences, the total welfare impact of the regulation can be negative. • Impact on consumer welfare is ambiguous and depends on the characteristics of the product, on technology conditions and on the extent of market power.
Lence, Marette, Hayes and Foster (2006)	Simple model to assess welfare and market effects with three periods	<ul style="list-style-type: none"> • Legal systems allowing for supply control favor Geographically Differentiated Agricultural Product (GDAP) development and can be welfare enhancing as long as they do not allow for more supply control than required to develop the GDAP. • Legal systems that limit the producer organizations' market power can result in large technological distortions. • Increased fixed and marketing costs of GDAP systems lead to increased need for supply control.

4.4 Measuring Willingness to Pay for Geographical Indications

From an information theory perspective, products are conceived as consisting of an array of information cues. Each cue assists consumers in evaluating the product. Cues can be classified as either extrinsic or intrinsic (Olsen, 1972). Intrinsic cues refer to characteristics such as physical features of the product (e.g. shape, size, etc.) while extrinsic cues, although related to the product, are not part of its physical description (e.g. price, brand, region of origin).

Growing attention has been paid in marketing literature to the issue of country or region of origin of foodstuffs and its effects on how consumers perceive products originating from a particular region. Several studies underline the role of the region of origin as a quality cue. According to these studies, the region of origin has an indirect impact on consumer preferences as a quality cue that stands in for other product attributes. However, geographical origin plays other more direct roles in determining consumer behavior e.g. through symbolic or cultural values attached to the region.

Various European studies have shown, through analyzing buyers' willingness to pay for specific characteristics, that consumers place value on the origin of food products. Hannemann (1991) outlines the theoretical underpinnings of willingness-to-pay studies as a utility maximization problem subject to a budget constraint. Various methods have been employed in empirical studies to measure consumers' willingness to pay.

Hedonic pricing

Hedonic pricing is a useful approach to study the relationship between price and product quality and has been widely used in consumer economics to evaluate the characteristics of agrifood products. The method uses a regression analysis of the price on the characteristics of the product. The implicit price of a characteristic is defined as the derivative of the price with respect to the product attribute. The hedonic price function captures the relationship between the observed price and the amount of each characteristic contained in the product. The partial differential of the hedonic price function shows the shadow price of the characteristic x_i . This differential represents consumer preference and one can make use of the information obtained from the hedonic price to evaluate the impact of place of origin on price

Combris *et al* (1997) applied hedonic pricing to the Bordeaux wine market and estimated a hedonic price function for Bordeaux wine to include both the label characteristics and the sensory characteristics. Data was obtained from widely available wine guides. However, the authors made reference to the inadequacy of these sources for estimating hedonic price equations as they do not verify the following conditions. First, all wines that are tasted should be included in the sample, regardless of whether the wine is considered good or bad. In wine guides the wines of inferior quality are often deliberately under-represented for commercial reasons. Second, bottles that are specially prepared to participate in a wine contest must be avoided as they are not, in general, representative of the overall production of the chateau. Third, in order to ensure objectivity, the bottles must be evaluated and tasted by independent experts. Fourth, blind tasting must be carried out. Finally, all the wines in the sample must be bought under the same conditions.

In contrast to previous studies using hedonic pricing,¹ the authors' data included detailed information on the sensory characteristics of wine. With respect to their model, the dependant variable is the logarithm of the price of Bordeaux wine and in the explanatory variables the authors included all the characteristics of the bottle (both objective and sensory variables). The empiri-

cal results indicate that the market price for Bordeaux wine can be explained primarily by the objective characteristics appearing on the label of the bottle. As it is expensive to obtain information about sensory characteristics (through tasting, learning and reading wine guides) consumers may decide to make their choice primarily on the basis of the objective characteristics, thus explaining the absence of almost all sensory characteristics in the hedonic price function.

Loureiro and McCluskey (2000) analyzed the consumer's willingness to pay for PGI label veal from Galicia using a hedonic price function. Data on consumption and attitudes toward meat was collected from a representative sample of 157 families. The results indicate that the presence of the label generates a high premium only in high-quality meat cuts while in cheap cuts as well as for the highest quality cuts, the label does not generate any extra premium. The study concludes that the impact of the PGI label is significant in combination with other quality cues. The authors point out that while the PGI label is a powerful tool to promote the quality and obtain a price premium when the collective reputation is good, its use on products that are not of high quality is not an efficient marketing strategy, and they suggest that it could impact negatively on the collective reputation. The authors cite cultural identification as well as perceived quality to account for premia found using the hedonic model.

A study by Teuber (2007) explored the economic impact of GI protection for coffee. Using Internet auction data for single-origin coffees, a hedonic pricing model was estimated. The results indicate that, in the specialty coffee sector, coffees from individual coffee-growing regions receive price premia due to their reputation and that country and region of origin already play an important role in price determination. The author however, pointed out that although these findings are similar to the findings of studies on the wine market, the case of coffee differs in that it is an intermediate good which is sold, and not a product which is ready for final consumption. The author adds that this holds implications for the scope of protection a geographical indication receives and that protecting the production process from harvesting to roasting would alter the whole supply chain and trade patterns.

Table 3. Empirical Studies utilizing Hedonic Pricing

Authors	Type of data	Products	Main results
Combris <i>et al</i> (1997)	Data on sensory and labeling characteristics. Data from wine guides and price data.	Bordeaux wine	<ul style="list-style-type: none"> Market explained mainly by objective characteristics on label due to cost of obtaining sensory information.
Loureiro and McCluskey (2000)	Consumer survey on consumption patterns and attitudes.	Galician veal	<ul style="list-style-type: none"> PGI as a powerful marketing tool in combination with quality indicators. Marginal diminishing returns with respect to quality.
Teuber (2007)	Internet auction data for single-origin coffee	Single-origin coffees	<ul style="list-style-type: none"> Single-origin coffees receive price premia due to their reputation.

Multinomial logit models

Bonnet and Simioni (2001) suggested multinomial logit models, as first introduced by Boyd and Mellman (1980) and Cardell and Dunbar (1980), as an alternative to hedonic price models. In their opinion, multinomial logit models provide a flexible specification for representing the distribution of preferences in the population and the choices of each consumer. In contrast to hedonic price models, multinomial logit models do not exhibit the property of independence of irrelevant alternatives. The authors estimated consumers' willingness to pay for PDO labeled French Camembert cheese using scanner data on purchases of Camembert brands in the French market. They estimated mixed multinomial logit models where the parameter associated with each observed product attribute is allowed to vary randomly across consumers and which is estimated using simulation techniques. The study's results suggest that consumers do not place significant value on the PDO label and that brand appears to be more relevant in the consumer's evaluation of alternative products.

Conjoint Analysis

In addition to the afore-mentioned methods, conjoint analysis is a particularly useful technique to estimate the consumer's overall preference for a product based on its most important attributes. It is a multivariate technique that allows the quality of a good to be analyzed and the product attributes' contribution to total willingness to pay to be calculated based on the assessment of the utility that consumers attribute to individual product characteristics. Monteiro and Lucas (2001) referred to Ness (1997) and Hair *et al* (1992), and pointed out the different possible uses of conjoint analysis:

- "To identify the combinations of the attributes which offer consumers greater utility;
- to evaluate the relative importance of each product attribute or feature for the consumer's utility or preference;
- to calculate the market share based on the consumer's evaluation of attributes and their respective levels in the product;
- to segment the market through the study of consumer preferences; and
- to evaluate market potential or opportunities by exploring unavailable attribute combinations."

Monteiro and Lucas (2001) carried out a conjoint analysis on consumer preferences for four main quality attributes of traditional cheeses: price, quality certification label, type of paste or texture and sale size unit and to identify groups of consumers with similar preference profiles according to those attributes. Data was collected from 269 consumers from six municipalities in Greater Lisbon who knew and bought PDO cheese using a stratified random sampling based on age and municipality of residence. They showed that the most important attribute for consumers of Portuguese traditional cheeses is the PDO protection, followed by price, type of paste or texture and then, sale size unit. By showing that the PDO labeling is more important to the consumer than the price, they supported the idea of a PDO benefiting from a price premium. Based on the attribute levels' utilities, they grouped consumers in three clusters, the first corresponding to the least price-sensitive with a preference for creamy cheese (28 per cent), the second to the very price-sensitive (16 per cent) and the third to include those consumers that consider both price and PDO protection as very important.

In their paper, Van der Lans *et al* (2001) tested the hypothesis that region of origin cues and PDO labeling influence regional food product preferences directly and not only indirectly through its perceived quality cue. The study was done by applying conjoint analysis to data on

Italian consumers' quality perceptions and preferences for extra virgin olive oils from Sabina and Canino, Italy. A total of 165 consumers were interviewed and asked to rate their overall perception of product quality and their product preference for 22 extra-virgin olive oils. The study concluded that the region of origin cue and the PDO label were both found to influence regional product preferences through perceived quality, although the effect was limited to specific consumer segments, especially those residents in the product's region of origin.

Fotopoulos and Krystallis (2003) set out to explore the effectiveness of PDO labeling and its acceptance by consumers through the use of conjoint analysis. The study explored whether consumers place more value on a food product with a quality label, through calculating Greek consumers' willingness to pay for PDO apples from Zagora, Central Greece. The results of the conjoint analysis indicated that the existence of the PDO label was more important than price only for certain segments of consumers.

Table 4. Empirical Studies utilizing Conjoint Analysis

Authors	Data used	Product	Results
Monteiro and Lucas (2001)	Portuguese consumer surveys	Portuguese traditional cheeses	<ul style="list-style-type: none"> • Between the price, the quality certification label, the type of paste or texture and the sale size unit, PDO protection is the most important attribute for consumers. • Three clusters of consumers were found based on the attribute levels.
Van der Lans <i>et al</i> (2001)	Consumer interviews on perceptions and preferences	Italian olive oil	<ul style="list-style-type: none"> • Region of origin cue and the PDO label both influence regional product preferences through a quality cue. • Region of origin also has direct impact on preferences of some consumers, especially those resident in the product's region of origin.
Fotopoulos and Krystallis (2003)	Full concept data collection method	Zagora apples, Greece	<ul style="list-style-type: none"> • Results indicate a preference for PDO-labeled apples. • Existence of PDO label is more important than price only for certain segments of consumers.

4.5 Rural Development Impact

Despite arguments supporting the rural development potential of geographical indications, few empirical studies measure whether they actually contribute to endogenous development processes. In measuring the impact of geographical indications on rural development, indicators such as increased rural incomes, market access and employment effects need to be studied. A further important impact is the potential exclusion dynamics which may arise from the institutionalization process associated with GI protection.

An attempt was made to study the link between territory-based product qualification processes and rural development by Tregear *et al* (2004). The paper aimed to investigate what happens in practice when actors in a local rural area pursue qualification for an agrifood product. A case

study analysis was conducted to show how three small-scale agrifood productions evolve, examining which actors are involved, what their motivations are and what is the development impact of qualification in terms of EU Regulation No. 2081/92. The authors made use of data gathered as part of the EU DOLPHINS² research project and found that product qualification may be utilized as part of a territorial strategy. However, the effectiveness of this depends on the presence of various factors. The results of the study are ambiguous on whether qualification processes *per se* can bring about development. The authors pointed out that the process of interaction and debate which lead to the creation of interest groups, holds certain advantages. However, conflict may also arise between the different actors, and decisions on codes of practice and exclusivity need to be addressed with circumspection so as to encourage the different actors to engage in activities that assist development. The authors concluded that product qualification may act as a mechanism for linking local and non-local actors and that it is a means by which local actors can signal and attract revenues from exogenous actors and institutions.

Callois (2004) investigated the assumption that quality labels may act as levers for inducing economic growth. He studied the consequences of quality labels on the redistribution of income and activities between rural and urban areas. The author not only took into account the income directly generated by producing under the quality label but also looked at the effect of this agricultural differentiation. In particular, he tested the assumption that higher income for farmers positively impacts the region through the multiplier effect. To test these assumptions and to determine under which conditions a differentiation strategy based on quality labels may lead to economic growth in a rural area, the author employed a new economic geography model, based on Krugman's (1991). Despite very specific functional forms, this framework was chosen for its ability to study how positive externalities in industry may lead to situations where all economic activity becomes concentrated in one region. Furthermore, as a general equilibrium model, the framework allows one to study indirect effects between sectors. The study's results strongly qualify the potential of quality labels to induce rural development. In particular, the study alludes to the potential exclusionary effects which may arise as the income of only some farmers increases while the region as a whole does not benefit. The author cautioned, however, that the results are model specific and should not be seen as conclusive evidence that quality labels only benefit a minority of farmers.

5. A CONCEPTUAL APPROACH TO STUDYING THE ECONOMICS OF GEOGRAPHICAL INDICATIONS IN DEVELOPING COUNTRIES

Having reviewed the various methodologies that have been used to assess the economics and economic impact of geographical indications, it is now important to consider the appropriateness of the above-mentioned methodologies for the study of geographical indications in developing countries. It is evident that most economic studies of geographical indications have been done in European countries where the concept is well entrenched. Before we can consider the most appropriate ways to study the economics of origin-based products in developing countries, it is important to identify the economic issues relating geographical indications that are particularly relevant to developing countries:

(a) *Misappropriation*

Many developing countries are at various stages of developing legislation for GI protection and are also considering the most suitable options for international protection for their important origin-based products such as *basmati* rice, Colombian coffee or *rooibos* tea. There is a strong international trade dimension behind the motive for 'international' protection, which may be

particularly important for developing countries. The move towards greater protection of geographical indications in developing countries is attributable to an increase in instances of misappropriation and usurpation, particularly in export markets, which may prevent local actors from capturing the rents associated with their traditional products and resources.

(b) Traditional and Indigenous Knowledge and Resources

Many developing countries are rich in traditional knowledge and often boast a large biodiversity. In this respect, concerns about “bio-piracy” have come to the fore, and developing countries could be inclined to use mechanisms such as GI protection as a way to preserve (and possibly benefit from) their national intellectual and cultural heritage as well as their biodiversity.

(c) Improving Market Access, Niche Markets, Protection of Reputation

Many unique products originating from developing countries have strong reputations usually linked to their health benefits, high quality and other unique attributes related to the country or region of origin. Being able to protect this reputation through a GI-type system could potentially be useful for farmers and traders in improving market access.

(d) Potential Income Effect

Preventing usurpation of origin-based products and protecting the reputation of these products could potentially have a strong developmental impact through an improved income effect. Ultimately this could contribute to increased employment and improved livelihoods. There is thus a strong argument related to the potential economic development role of protecting geographically based products in developing countries against exploitation and misappropriation by international traders. However, the possibility of effectively benefiting from potentially increased income for producers through GI protection is strongly dependent on their capacity to implement effective enforcement as highlighted by a study conducted in India (World Trade Report (2004)). This study looked at the effect of legal protection on the demand for and price of Darjeeling tea. The results suggest that GI protection increased the price of Darjeeling tea in total by less than 1 per cent in real terms over the 1986-2002 period, which indicates a very modest price premium effect as a result of GI protection (although an improvement in quality was observed that may be linked to GI protection). According to the authors, this is partly explained by a possible gap between the legal protection that has been given to Darjeeling tea in India and the quality of the enforcement procedures. This dimension appears as particularly relevant from a developing country perspective.

In the context of the current international debate on GI protection and the establishment of a multilateral register at the WTO, discussions on what might be most convenient for developing countries have attracted significant attention. Following Rangnekar (2004), the costs of developing the required domestic institutions for the effective implementation of GI protection, and for the different groups interested in acquiring and enforcing their rights, should be balanced against the increased efficiency that might be brought about by a centralized register (as opposed to multiple registrations in different countries that may not be feasible for resource-poor groups). However, another important dimension associated with this debate, which might benefit from empirical research, has been the issue of extending GI protection to a number of GIs already protected in certain markets (e.g., the “clawback list” of the European Union). In this regard, Kerr (2006) has suggested that in developing countries strong GI protection and reciprocity in protection could mean that local producers who used to market their products under a newly protected GI would have to build alternative marketing strategies. The debate, in this regard, is whether the benefits accruing to the extended group of beneficiaries of GI protection

would outweigh the costs associated with the restriction over the use of some product names. According to Rangnekar (2004), domestic market disruption provoked by these restrictions will have short-term implications. On the other hand, some authors, such as Kerr (2006), argue that, to raise the benefits of GI protection, producers from developing countries would in most cases need to invest significantly in marketing campaigns with little chance of being able to sustainably capture a rent. To support his argument, Kerr (2006) referred to Cardwell (2005) which showed that the effects of marketing campaigns for products such as Washington apples require long-term resource engagement to be sustained. This question is highly dependent on product specificity and actual reputation.

Thinking about the economics of geographical indications in developing countries is rather more complicated and more multifaceted than is usually appreciated. The reasons for this are: (1) the fact that the geographical indication concept is rather foreign and new to many developing countries; (2) the institutional and legal systems are not necessarily in place to ensure sufficient domestic and international protection; (3) the economic benefits of a geographical indication system often have more of an international and market access dimension; (4) the majority of the population is rather poor and will not normally respond to the niche market concept of geographical indications, so domestic willingness-to-pay studies will not necessarily be appropriate.

Given the interest that GI protection has generated among many groups of producers of origin-based products in developing countries, it is likely that many future studies on geographical indications in developing countries will investigate the feasibility of GI protection for a number of specific products. In such cases, some *a priori* assessment of the current and future potential of the product in terms of its volumes, distinctive quality, homogeneity, pricing and cost of managing the supply chain, the existence of a market demand for the unique attributes of the product and the existence (or potential) of unfair competition will be required. Apart from these aspects, the more fundamental issue to be addressed in developing countries is to determine the economic effects of introducing a specific geographical indication and in the process to distinguish between the economic effect on producers, rural areas, livelihoods, and food security.

Linked to the process of analyzing the benefits to producers, economic studies will also be needed to compare the costs and benefits of alternatives to *sui generis* protection of geographical indications, for example, via trademarks, certification marks, collective marks or unfair competition law. These economic studies would also need to integrate legal and institutional issues to weigh up the benefits of each alternative system. The purpose of the protection or certification and the markets in which protection is required will, however, to a large extent, inform the outcome.

With the reality of developing countries in mind and having the inventory of existing methodologies related to the study of economics of geographical indications in hand, it is evident that the economic studies of geographical indications in developing countries required to investigate the feasibility of GI protection for any specific product would need to adopt an interdisciplinary approach with less of a rigorous quantitative approach in terms of testing consumers' willingness to pay. There is clearly a need for a more integrative approach to studying geographical indications in a developing country context, which would, in most cases involve the combination of law, economics, and natural sciences.

The first obvious question that would need to be asked would be: Is there a need or potential for GI protection for a specific product? In the process it is necessary to ascertain:

- the unique characteristics of the product that are linked to the geographical area or the people of the region, i.e. the product specificity (here a combination of natural sciences,

social sciences such as ethnography, anthropology as well as consumer perception surveys would be necessary);

- the quality and reputation of the product (e.g. through consumer surveys);
- the potential for a price premium or the potential loss in price and income as a result of usurpation, etc. (e.g. through economic surveys of price trends and farm incomes).

If the need for GI protection is ascertained, the second question would focus on the appropriate legal and governance system necessary to protect the reputation and the regional specificity of the product (legal and institutional analysis). One would therefore also consider the merits of alternative systems such as protection under trademark law. In this process, the focus would be on:

- the costs of the different systems (certification and inspection);
- the benefits of each alternative system; and
- the need for, and the strength of, producer and region-based collective organization.

The third set of issues that would have to be studied and addressed is the welfare, distributional and exclusionary effects of such a geographical differentiation strategy. In light of the extreme poverty and inequality in most developing countries, this aspect would have to be addressed from a political economy point of view. Ideally, studies on these issues would be undertaken using rather sophisticated and data-intensive econometric models such as equilibrium displacement models, partial and general equilibrium models, although data availability is likely to be a major constraint.

A literature review reflects virtually no examples of empirical studies on the economics of geographical indications in developing countries. This is partly due to the current limited debate on the matter, the lack of research capacity, as well as the general lack of reliable price and volume data in these countries.

However, as we are currently involved in a research project funded by the French DURAS program looking at the potential implementation of a GI-type system of protection for agricultural products in South Africa we will briefly illustrate the methodology followed in two cases to give readers a feel for the approach we followed to assess the merits for a GI system in South Africa, as relates to these two products.

6. THE APPLICATION OF ELEMENTS OF THE CONCEPTUAL FRAMEWORK: CASE STUDIES FROM SOUTH AFRICA

6.1 Karoo Lamb

Windmills, sheep, farm homesteads, endless vistas, home-baked bread, hospitable nights... these images are engrained in the minds of many South Africans when they think of the Karoo. Because of these images, and the tranquility and honesty of the Karoo way of life, the "Karoo" concept has become synonymous with quality, tradition and wholesomeness. The reputation for quality which exists in words such as "Karoo" has significant marketing potential and is sought after by producers with little or no link to the region.

The Karoo covers almost 50 per cent of the total area of South Africa and is sparsely populated, far away from major urban and distribution centers. This lonely corner of the earth is home to one of South Africa's living treasures: flocks of sheep, grazing freely amongst the scattered shrubs. Their meat has been described as "mouth-wateringly succulent, imbued with the subtle, fragrant flavors of the Karoo bush". It is not surprising – they feed on wild herbs, thousands

of different species of them, where normally sheep live on one type of grass. It is a most exquisite lamb, the world-renowned free-range Karoo lamb.

Most people love Karoo lamb; it is spiced on the hoof and has a special flavor. It is argued that the bushes in the Karoo provide this taste but perhaps it is the way the farmers finish the animals in free-range environments. It is still not sure what the difference is and very few people have discovered the secret, but as some people argue "my palate knows the difference". By all accounts, most chefs agree that there is something special in Karoo lamb.

The Production Area

The great semi-arid area stretching North-eastwards from the Cape is called the Karoo. Typically, it is flat dry shrub land with grass-growth restricted to the moistness of the occasional mountain ranges. Rainfall is sporadic, less than 500 mm a year, in some places a great deal less. Periods of drought last for several years, affecting the region and its plant growth. Notable droughts occurred in the periods 1919-31, 1944-49 and 1962-73. Since 1974 it has been a relatively wet period.

Apart from Karoo lamb, the vast region of the Karoo produces little else of note. Total gross income from agriculture in the Central Karoo District Municipality (roughly representing the Karoo region) in 2002 was 147,9 million rand with sheep providing the largest share (54 per cent), followed by animal products such as wool or mohair (22 per cent).

Production Processes

The specific taste of Karoo lamb is largely due to the fact that the production is virtually organic except for minor doses for typical sheep diseases such as blue tongue. Karoo lamb is marketed straight from the field and no additional feed is provided. Sheep that are sent to a feedlot to be fattened do not have the same taste and lose the characteristic taste. It is for this reason that farmers have already agreed that fattening in feedlots is not part of the production process of Karoo lamb.

There is, however, some debate about whether the particular taste is only to be found in the Dorper breed or in the Dohne merino breed. The additional debate is whether certain bushes contribute to the specific taste which then makes the demarcation of the production region so critical. The demarcation of the region is, therefore, largely based on the vegetative and soil classifications.

The Product and its Existing Reputation (Product Exposure)

At present there is no existing scientific literature on the sensory qualities of Karoo lamb and/or mutton. As noted earlier, Karoo lamb/mutton has become associated with a unique and desirable flavor, being described as much sought after. In order to protect the geographical name of the Karoo, as well as the indigenous resources associated with Karoo lamb/mutton, the potential exists for the establishment of a geographical indication based on the reputation of quality and flavor in combination with the nostalgia generated by the perception of the Karoo region. However, it is critical to establish whether the perceived aroma and taste differences between Karoo lamb/mutton and lamb/mutton from other regions are scientifically measurable.

The product “Karoo lamb” has been part of South African culture for more than a hundred years. It is part of the Afrikaner and also Cape cuisine and many regions and towns in the Karoo market their towns, restaurants and guest houses as “the home of Karoo lamb”. On the menu of most of the restaurants and guest houses in the Western Cape and Northern Cape the various dishes made from Karoo lamb can be noticed. With many Afrikaners being urbanized over the last 40 years and the connection to rural South Africa being diminished, the nostalgia around the traditional Afrikaner way of living is somehow satisfied through the association with Karoo lamb and to have a nice typical braai with a few good friends.

There is thus a strong geographical as well as cultural link in the Karoo lamb concept. However there is no insignia, no certification and no guarantee that the product truly originates from the Karoo when it is sold as Karoo lamb. Only one retail chain (Woolworths) has registered a trade mark for a Karoo lamb product: “Free Range Karoo Leg of Lamb”.

In order to scientifically test the “taste” reputation of Karoo lamb and to determine whether there is a demand amongst consumers, we embarked on a number of studies (again illustrating the combination between biological and consumer sciences to verify the economic value of the product).

The primary objective of this part of our research was to compare the fatty acid profiles, sensory attributes and cooking-related properties of *M. Semimembranosus* (leg), cooked according to a moist heat-cooking method, of Age B mutton from fat class 3-4 of Dorper and Merino from the Karoo with that from other production areas using quantitative descriptive analyses.

The secondary research objectives were:

- to determine whether there is a sensory detectable difference between mutton produced in the Karoo region compared with mutton produced in other regions of South Africa and Namibia;
- to quantify the fatty acid profile of mutton produced in the Karoo region compared with mutton produced in other regions of South Africa and Namibia, as well as indigenous plants traditionally linked to the unique flavor compounds in mutton from the Karoo region;
- to determine whether there is a difference in consumers’ degree of preference for mutton produced in the Karoo region compared with mutton produced in other regions of South Africa and Namibia in a blind evaluation experiment.

For our consumer research component of this study the main objectives were to establish consumer awareness and perception of South African mutton and to measure consumers’ degree of preference for mutton linked to the geographical production origin of the meat. This was not a willingness-to-pay study but a survey to test consumer perceptions and general awareness to form an indication of the reputation of the product.

The research results are currently being processed but initial indications are that there are clear distinguishable sensory attributes of Karoo lamb – thus confirming the perceived reputation. A next step of the research is to estimate the potential premium that Karoo lamb can extract from the South African market for red meat.

6.2 Rooibos

Rooibos is an herbal tea made from *Aspalathus linearis*, which is an indigenous plant of the *fynbos biome* in South Africa. It only grows in the Cedarberg region of the Western Cape Province and the high-lying areas in the southern parts of the Northern Cape Province. Rooibos is also only processed in this region. *Rooibos* is the Afrikaans word for "red bush". Different qualities of *rooibos* tea are attributed to different soil and climate conditions, with some areas recognized for their superior quality.

Rooibos is known as a specific product from South Africa. It has become a popular tea worldwide, especially appreciated for its polyvalence and health benefits. Traditionally gathered in the wild, *rooibos* is nowadays mainly cultivated. It is carefully chopped, fermented and then dried and sifted. Through the fermentation process, *rooibos* gets its characteristic red color, its distinctive flavor and sweet aroma. It has a long history related to a specific territory: the processing stage still mainly relies on traditional methods, which trace back to the Khoi and San populations over 300 years ago. *rooibos* cultivation practices have been developed over the last century by the different settled populations. Its cultivation is now strongly associated with the landscape of the Cedarberg region and that is a key element of its identity. It has become a South African heritage.

Primary production involves between 300 and 450 farmers, both commercial (about 97 per cent of production) and small-scale farmers. Areas under cultivation range from a few hectares to over 5,000 hectares per farm, but these large-scale producers are in the minority. Most of the small-scale farmers are members of two cooperatives that grow, process and market *rooibos* mainly for the fair-trade market. *rooibos* processing is dominated by eight large companies mainly located in the Cedarberg production zone that collect and transform it and sell it to intermediaries who market it. Among these processors, *rooibos* Ltd⁴ holds 75 per cent of market share, dominating in particular the national market through the National brands group.⁵ The turnover of the *rooibos* tea industry was estimated at 180 million rand in 2004 (corresponding to 22.5 million euros). The export market represents more or less 60 per cent of the production against 40 per cent for the domestic market.

Rooibos is sold pure or in blends. The deployed qualification and certification strategies are diverse: fair trade, organic farming, "wild *rooibos* tea". These strategies can support strong differences in prices paid to the producers: in 2005, *rooibos* Ltd, whose production is mainly conventional (only 15 per cent organic) paid 1.9 euros for 1 kg of dried *rooibos* while the Wupperthal cooperative, whose production is all organic and certified through fair-trade channels, paid 3 euros per kg. However, this diversity primarily concerns the export market and is restricted to small niche markets. Most of the exporting (over 90 per cent) is done in bulk.

The Need for Protection

Rooibos is not currently produced anywhere else in the world, but with the increased international demand for *rooibos* tea, some producers feel there is a threat of possible delocalization of production outside the country. Another more immediate threat arose with the registration of trademarks on the name "*rooibos*" by different companies in different countries. This resulted in a major legal battle in the US that made *rooibos* famous. The term "*rooibos*" was registered there as a trademark in 1994 by a South African company to draw profit from its exclusive rights in marketing *rooibos* under this name in the US. In 2001, the company assigned its trademark to its US agent. Rooibos Ltd, assisted by the South African Department of Trade and Industry and the Western Cape Government, contested this registration for more than six years

and had to spend almost 6 million rand (750.000 euros) in legal fees before they achieved an agreement with the agent, which recognized officially in June 2005 the canceling of its registered trademark. This was made possible because the name *rooibos* was recognized as being a descriptive generic term, commonly used to refer to the herbal tea derived from the *Aspalathus linearis* plant and thus cannot be used to design a trademark (TRALAC (2005), Silver (2002)).

The increased demand and lack of quality standards on *rooibos* give rise to opportunistic behaviors both from South African processors and traders – who need to create their space in a market strongly dominated by Rooibos Ltd – and from European buyers, on export tea quality. A particularly important dimension is the quantity of stick in the *rooibos* tea, which increases the volume but can degrade the quality and is used in defining different grades. However, up to now, these grades are not equally shared among the industry. The subsequent risk of degradation of quality, and thus of loss of reputation, is perceived as an important threat by some actors. Furthermore, with the dynamics of innovation in the industry and the huge product range (not only the blended herbal teas but also cosmetics, soft drinks and other products), it also becomes more important for the commercial viability of the industry to make sure that it is *rooibos* that is used. With the expansion and opening up of new markets, need for standardization becomes critical. But with more than 90 per cent of the production sold in bulk and the European market being dominated by a few international tea brokers from Germany, control on overseas markets is very difficult.

Another challenge relates to equity issues and the relations between resource-poor farmers and commercial farmers with the power in the industry captured by the elites.

Research Perspectives around GI Development in the Rooibos Industry

Following the dispute in the US, interest in developing a geographical indication for the *rooibos* tea arose both at sectoral and governmental levels. A South African Rooibos Council (SARC) grouping producers, processors and traders has been established, mainly driven by the processors. The small-scale farming community has only recently joined it. Until recently, the efforts for organizing and improving coordination among *rooibos* producers and processors concerned mainly research aspects. However, this is evolving with the increased awareness of the need to protect their product and markets and the perceived risks of quality degradation. Furthermore they are encouraged by public institutions to cooperate; and they are exploring the potential for developing a geographical indication around *rooibos*.

If interest for geographical indications was already present, actual discussions about it took place mainly as a result of the research program we have been undertaking in consultation with the industry since the end of 2005. The broad focus of the research is essentially to consider the appropriate vehicle for IP protection. At the same time, seeking a governance structure that will minimize the transaction costs in a system that will protect the industry against misuse and usurpation of the name, ensure better control over quality and combine the GI and the biodiversity strategy. The first two points have already been well explored and debated; the third will be the object of a broad consultative process with farmers from the different areas of production. The committee has been established so as to ensure representativity of the different role players in the industry and was agreed at the last general assembly meeting of the SARC.

The advanced level of differentiation inside the industry, which has up to now been managed through individual or restricted collective strategies, could be nicely complemented by GI protection. Future prospects could be to consider a geographical indication as an umbrella under which could be defined different specifications to account for the different qualities and

processes of production. This could reinforce small-scale farming communities, for which market access and differentiation for their production is already well developed. Indeed, their access to market is very dependent on fair-trade trends, and communities have potential for strengthening their position in the market by benefiting from the recognition of their specific quality through geographical indications. Indeed, it is known that the areas of production of these communities offer very good conditions for producing high quality *rooibos*. They are settled in one of the best terroirs for *rooibos* production. However, it is worth mentioning that this has not yet been widely discussed inside the industry, which is first concentrating on properly establishing a geographical indication for *rooibos*.

If the GI strategy appears to offer an interesting perspective for the *rooibos* sector and is currently being defined through the consultation process based on the GI committee, it will clearly depend on the evolution of the legal framework. Two options exist: (1) relying on collective or certification marks and thus being primarily based on private strategies and initiatives from the industries, (2) GI benefiting from a *sui generis* system with public interests probably being fostered. The research program is well connected to the policy process and has been instrumental in the evolution of the policy arena from a clear lack of interest, or even a negative view on geographical indications, to a much more open attitude. In this regard, case studies such as the *rooibos* case are enriching the research process and thus the political debate.

7. CONCLUSION

In this paper, an exposition of the economic rationale for protecting geographical indications is provided as a theoretical framework from which to start with empirical research on the topic. The discussion illustrates that providing protection for geographical indications is more than just linguistic monopolization and that the economic underpinnings of geographical indications derive from considerations of value added and market access through differentiation. The collective monopolies which result from the institutionalization process provide producers targeting origin-labeled niche markets with the opportunity to protect and enhance the potential of these markets and to transform the value added into an economic rent.

The economic arguments presented in this paper provide a strong justification for the protection of geographical indications in the developing world. In contrast to more commercialized products, indigenous products with strong links to indigenous people have an advantage in establishing a geographical indication. The stronger the connection between the product and the region, as facilitated through its link with the indigenous people, the stronger the competitive advantage. This is in line with a study which found that geographical indications show the greatest potential to benefit local producers where traditional small-scale production is still present on the supply side, and where end-use products are marketed directly to consumers. In other words, they are less likely to be appropriate when the product is a commodity traded primarily in bulk (Downes and Laird (1999)). This confirms the potential of employing the economic benefits of geographical indications to enhance development for local communities throughout the developing world.

However, from a policy perspective much empirical work remains to be done to determine the direct and indirect impact of geographical indications in the developing world. Existing empirical studies are predominantly done within the European context and do not provide for the characteristics of origin-labeled supply chains in developing countries. As a point of departure, it should be kept in mind that the motivation behind GI protection in developing countries varies from that of their developed counterparts. For one, what is emerging is that developing countries' main objective with GI protection is often the prevention of resource piracy and misappro-

priation. Conversely, the consumer dimension is likely to be of less importance in the domestic market. A further consideration is ensuring an inclusive and a representative industry organization which can facilitate GI protection. Without this, there exists a danger that the larger-scale farmers and agribusiness firms could capture the economic benefits without any of those benefits (higher employment and higher income) flowing to the workers and small rural enterprises. The diversity in and/or lack of supporting institutions and the impact of this on governance and coordination within the supply chain also need to be taken into consideration in empirical studies in developing countries.

Apart from the importance of contextualizing empirical research in developing countries, measurement of the contribution of geographical indications, as reflected in the theoretical arguments mentioned earlier, poses certain difficulties. According to a report of the European SINGER-GI project, the main methodological difficulties are linked to (1) "The choice of reference point; (2) getting reliable data; (3) choosing between objective quantitative data methods/subjective qualitative data methods with their specific limits; and (4) separating causes (many factors are working together)."

As the research focus in GI research extends from its origins in Europe to the evolution of origin-supply chains in the developing world, these methodological challenges will no doubt be increased. However, without a collective body of empirical evidence on the impact of geographical indications, policy decisions in the developing world will remain uninformed, potentially producing unintended welfare impacts.

Notes

- 1 See also Nerlove (1995) and Oczkowski (1994). For a review of the literature about hedonic wine studies see Viana (2006).
- 2 Development of Origin-Labelled Products: Humanity, Innovation and Sustainability. European Union Concerted Action Project QLK5-2000-00593.
- 3 This company results from the *Rooibos* Tea Control Board, created in 1954 in order to organize the production and the marketing of *rooibos*. Until the 1990s, this state organization was the only actor in processing and marketing *rooibos*. In 1993, it was voluntarily dismantled and its assets were shared among the producers who founded Rooibos Ltd. Even now, some 200 producers hold the majority of the company's shares and are its principal suppliers through a fixed annual price system.
- 4 Rooibos Ltd supplies 95 per cent of the local market.

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COMMENTS ON THE ECONOMICS OF GEOGRAPHICAL INDICATIONS: TOWARDS A CONCEPTUAL FRAMEWORK FOR GEOGRAPHICAL INDICATION RESEARCH IN DEVELOPING COUNTRIES

JOHN WILKINSON*

Introduction

The paper by Cerkia Bramley, Estelle Biénabe and Johann Kirsten provides an excellent review of the literature on the economics of geographical indications, and the central questions identified are then admirably elucidated through the presentation of two case studies carried out in South Africa. The paper covers the principal theoretical issues relating to geographical indications, focusing on the economics of information, reputation, niche market formation, monopoly or club theory, and the creation of value added. It also provides a literature review of the main methodologies applied for the study of geographical indications – analysis of reputational effects, supply chain and transaction cost approaches, welfare analysis, and willingness to pay (hedonic pricing, multinomial logit models and conjoint analysis).

They draw attention to the fact that these methodologies have been applied to date only to geographical indications in the European context and argue for the need to focus on the specificities of those in developing countries: the concept itself is both foreign and new; the institutional and legal systems are not in place; the economic benefits more related to international markets; the populations are generally too poor to support niche strategies, questioning the usefulness of willingness-to-pay studies.

The central issue, nevertheless, is that of the feasibility of geographical indications in the developing country context, which means that there must be some analysis of the current and future potential of the product, an appreciation of market demand and an evaluation of the question of unfair competition. In addition, it will be necessary to assess the likely economic impact of GI introduction for different stakeholders. Geographical indications will also have to be analyzed in the light of alternative forms of protection (trademarks, certification marks). The authors then make the important point that in the developing country context methodologies will necessarily have to adopt a less rigorous quantitative and more interdisciplinary approach.

On methodological approaches appropriate for developing countries the authors rightly draw attention to three points: where a geographical indication does not already exist, a prior analysis of the product's potential is important since this might avoid wasteful investments; there should be an evaluation of the type of protection most suited to the context – trademark, certification, or geographical indication; if the latter is seen to be viable a preliminary analysis of likely impacts would be pertinent. We could add here the importance of evaluating the broader institutional context, which predisposes towards one or other system of protection with differential indirect impacts. In each case, however, levels of organization are crucial to a successful outcome and these should be the object of prior analysis. If we are dealing with a geographical indication there should also be an evaluation of the broader development impacts and the likely division of benefits.

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The authors then highlight three questions: is there a need for GI protection for the specific product under consideration (unique characteristics, reputation and potential for price premium)? What should be the appropriate legal and governance system (costs, benefits, collective action capacity)? What are the likely welfare, distributional and exclusionary effects of GI protection? The authors suggest that, in terms of methodology, priority should be given to the use of surveys. They seem to suggest, however, that such surveys are subjective in contrast to econometric studies which would be objective. In the case of developing countries the key point would seem to be the lack of data, particularly over time. It would be highly useful to establish base-line data at the outset but this would require the dedication of considerable research resources. It is also important to define control variables which would allow discrimination between the effects of the geographical indication and broader systemic influences.

The paper provides an excellent review of the literature and initial guidelines for the economic analysis of geographical indications in the developing country context. In our comments, we would like to focus on the following issues: the institutional/juridical context; the notion of reputation; the idea of consumer demand; the relation between products and services and the distinction between direct and indirect impacts; the domestic market; the centrality of collective action which includes the question of governance. We will then make some additional comments on methodological guidelines. Our remarks will naturally be influenced by the work we have been doing on geographical indications in Brazil and Latin America.

The Institutional/Juridical Context

Differently from Europe, geographical indications have been introduced into developing countries within the framework of the WTO/TRIPS provisions. As the authors point out, these provisions allow for their assimilation in existing protective legislation (trademarks) or for the creation of *sui generis* legislation. There is a fundamental ambiguity, therefore, as regards the type of right, which a geographical indication represents. Various countries use existing trademark legislation, reinforcing thereby the private nature of the right in question. Even countries which adopt geographical indications as a *sui generis* form of protection, may, however, consider the protection as a private right. In practice, this may mean that the institutional involvement of the state is very limited, that the conditions governing the concession of geographical indications are fundamentally procedural rather than substantive, and that, once conceded, there is little or no monitoring or provision for reconsideration of the right conceded. It is also probable that the developmental aspects of geographical indications, so central to their justification in Europe, will be less prominent to the extent that the private nature of the right is highlighted. It is likely that in the absence of strong state or public sector support, they will predominantly be promoted by large-scale producers. Analysis of geographical indications in developing countries, therefore, should pay attention to the institutional implications of the adopted juridical structure, which will certainly vary considerably from country to country, but will tend towards minimalism, making subsequent adjustments more difficult. This becomes central once we consider the speed with which GI claims can be conceded. Methodologically, this implies that much attention should be given to the process whereby the geographical indication is conceded, together with the implementation of monitoring systems.

The TRIPS legislation also makes provision for two types of GIs – indications of provenance (IP) and appellations of origin (AO) – whose dynamics may be quite different. In addition, therefore, to comparing geographical indications with other protection systems it is important to distinguish the differential impact of these two types. IPs refer basically to the reputation of the product without stipulating the exact relation between the product and the place. AOs, on the other hand, indicate that the specific characteristics of the product's confection are derived from the

place after which it is named. This distinction may be understood as referring to two qualitatively different systems of protection or, conversely, the IP may be considered a first stage to acquiring AO status. The dynamics of the geographical indication will be very different depending on the interpretation adopted. The rationale of demarcation decisions, for instance, is quite different, with much less rigor required in the case of IPs, understood as providing a different justification for protection than AOs.

Reputation

As a system of legal protection, geographical indications would seem to pre-suppose the existence of reputation. In many cases, however, they may be adopted as a strategy for the construction of reputation, given the reputational effects of the GI system itself. It may, in this sense, be only a component within a broader niche market segmentation strategy based on special quality characteristics. On the other hand, it may become adopted as a key strategy for territorial valorization, particularly by development agencies. The danger here is that local reputations may be too rapidly inflated and expectations of market growth exaggerated, leading quickly to disappointment and demobilization. International reputation is limited to only a limited number of products in developing countries but the growth of solid middle class markets in an increasing number of such countries opens up the perspective of consolidating reputation domestically, which may then become a springboard to the global market.

Consumer Demand

A similar point can be made about consumer demand. While willingness to pay is the decisive market test, it is not at all clear that a consolidated disposition to pay a premium characterizes the GI world as a whole. In addition, declared willingness to pay is not necessarily translated into purchasing decisions. Nor is it clear that consumer demand is best understood as a fixed disposition. There is a considerable body of literature today focusing more on the construction or formatting of demand. This is not simply a question of publicity but refers to the whole set of technologies which are put into play to filter supply prior to the moment of consumer choice, which is, itself, subject to considerable orchestration. Here again, geographical indications can become simply a component in the construction of quality markets. The central question then becomes the nature and extent of the network which the GI promoters are able to consolidate at the level of distribution and retail.

Products and Services – Direct and Indirect Impacts

Geographical indications emerged in the European context within a decisive focus on production, the product and its developmental impact. Today, food and the rural economy are increasingly absorbed within a shift to services. In this context, reputational effects are susceptible to much greater spillover and the indirect impacts of geographical indications can assume proportionately more importance. The promotion of origin products is today intimately related to tourism (eco, rural) which leads to the promotion of hotels, restaurants and related activities. In turn, this tends to attract inward migration – weekend homes, exclusive new residential areas. Land rents may become inflated not just or even primarily through the arrival of new would-be producers, but rather as a result of the associated services. In such a case, strict product-based demarcation may suffer internally from the emergence of new land uses and be more generally weakened to the extent that the spillover effects of service valorization do not coincide with the original demarcation. It may also be the case that the GI product emerges under the shad-

ow of a larger place reputation based on the culture and service sectors. Here again, demarcation may adjust to the larger reputational reference particularly if the geographical indication sought is of the IP variety. On the other hand, the differential benefits accruing to the service sector mean that geographical indications promoted by large-scale producers may nevertheless provoke considerable indirect benefits for small farmers and rural workers.

The Domestic Market

The authors emphasize that geographical indications in developing countries will be fundamentally oriented to international markets. This is clearly the case for some – including the South African *rooibos* which they discuss in their paper. The corollary to this for the authors is that there is little perspective for niche market creation in developing countries. This, however, would appear to be too sweeping a conclusion in the light of the rapid growth of a middle class in many developing countries which can now be counted in the tens, and in some countries, in the hundreds of millions. We can expect therefore to see the development of geographical indications which are primarily geared to the domestic market even though, within a globalized world, exports would be a natural complement to niche success in the domestic market. Before gaining global markets, many geographical indications will have to establish themselves first in the domestic market.

Collective Action

Collective action is a particularly sensitive question in the developing country context. Lack of organizational capacity and particularly the associated costs may lead to a dependence on outside actors, be they NGOs or the public sector. Conversely, the widespread discrepancy between the relative power of actors within the same territorial space, a consequence of polarized agrarian structures, induces a bias towards the appropriation of the benefits of a geographical indication by a small minority of particularly well-placed producers. Rules of participation may, therefore, not reflect the average possibilities of producers in the region.

Methodological Guidelines

Analysis should not be limited to the question of economic impacts or performance but should be guided by the way in which geographical indications are publicly justified. The bases of GI legitimacy have varied over time and place, but they are increasingly associated with sustainable forms of economic activity, whose social and environmental components will tend to become more important in the developing country context. Similarly, to the extent that they are forms of collective action, the nature and dynamic of the organizational forms assumed will be of central importance for any system of monitoring and evaluation. A pre-condition for evaluating geographical indications in developing countries would be the establishment of national systems of accompaniment: better still if these could be coordinated on a broader scale. The first task would be the design of comparable methodologies covering types of protection, forms of organization, the contextualization of the GI product/service, its dynamic as from year one. The very recent implantation of geographical indications in developing countries provides the opportunity for constructing a database as from year one. Given the precarious nature of data in many developing countries, such data would have to rely heavily on fieldwork surveys. Bramley, Biénabe and Kirsten's paper provides a very valuable contribution for such an undertaking.

COMMENTS ON THE ECONOMICS OF GEOGRAPHICAL INDICATIONS: TOWARDS A CONCEPTUAL FRAMEWORK FOR GEOGRAPHICAL INDICATION RESEARCH IN DEVELOPING COUNTRIES

ROLAND HERRMANN*

Bramley, Biénabe and Kirsten have provided a thorough and comprehensive survey of the literature on the economics of geographical indications. They have captured most of the contributions available and I share almost all of their statements regarding the protection of geographical indications and the conceptual framework for studying their applicability in developing countries. The authors have also competently covered the methodological approaches which have been used when the economic impacts of geographical indications were analyzed in the past.

I see the objective of these comments to provide some additional arguments that seem important to me. These arguments refer to the following points:

- (i) relevant additional research areas;
- (ii) suggestions on the use of the methodologies proposed;
- (iii) relevant additional aspects on the use of geographical indications in developing countries; and
- (iv) some additional findings on the benefits of geographical indications for developing countries.

Relevant Additional Research Areas

The authors have already covered a very broad body of literature that is directly related to the economics of geographical indications. There are, however, some branches in the literature that are indirectly linked and which may provide additional important insights.

First, it is the literature on the economics of generic promotion of agricultural products which is a very well-established and relevant one (e.g. Kaiser *et al* (2005) or Alston *et al* (2003)). I would regard many aspects of generic promotion as rather similar to those of geographical indications. Why is this? Generic promotion has always been seen as an instrument to raise the value of agricultural products by shifting the demand curve to the right. The additional costs for producers in terms of financial contributions or additional costs of quality control have also been discussed there extensively. Both aspects, the shift in demand and the additional costs of introducing protection for geographical indications, are also important here. The literature on generic promotion or on the promotion of regionally produced agricultural products has come up with some results that seem very safe and uniform: probably the most uniform result is the very low advertising elasticity which ranges between zero and 0.1 in almost all cases. If this result is valid for geographical indications, too, this is a crucial result on the size of a demand shift that can be induced by promoting GI labels successfully. Large amounts of additional advertising expenditure would be necessary for a sizeable shift of demand for products protected by geographical indications. This might imply that their successful protection for developing countries' products does pay, mainly for the countries which are already rather successful on international markets.

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It has been elaborated in the generic-promotion literature that basic coefficients known from market analysis are crucial for the success of promotion. Price, advertising and cross-price and cross-advertising elasticities do matter. It is also important whether market imperfections on the demand or supply side do exist. These aspects will likewise have to be incorporated in studies on geographical indications and this is not an easy task. And what is often lacking in the generic promotion literature is the question “who gains more and who gains less in the marketing chain” from such a program and what the incentives are for farmers, processors and retailers of a firm to participate in such a system by sticking to its standards, making financial contributions, etc. It seems to me that all these questions, which are open in the much more developed literature on generic promotion, will become equally important in future work on the protection of geographical indications.

Another branch of the literature which seems relevant is related to the economics of organic vs. conventional agriculture and to the economics of labeling. It is a common feature with geographical indications that the objective of realizing a higher value on the market compared to either conventional agriculture or unlabeled products plays a major role here. There are contributions which even combine both arguments, e.g. the studies done at IFPRI on eco-labeling in developing countries and its potential to raise rural income in these countries (Basu *et al* (2003)).

There is an interesting trend towards high-value commodities in the export specialization of developing countries. Traditional export commodities have been substituted by high-value commodities to some extent. Fruit and vegetable and fish exports by developing countries are cases in point. The determinants of this structural change in agricultural exports of developing countries are those that might also be important for success stories in GI protection for developing countries (Swinnen and Maertens (2006)).

Suggestions on the Methodologies Proposed

The first suggestion regarding methodology follows directly from the former point. Analogies to the economics of generic promotion, organic agriculture, labeling or high-value commodities could be utilized and similar approaches could be applied. This seems promising as the economics of generic promotion is older, more settled and micro-economic approaches have been applied more often and have a longer tradition. It is my impression that the characteristics of the supply side have to be modeled in more detail than before. In order to derive the implications of geographical indications on producer gains and economic welfare it is crucial to know their effect on supply compared to the non-GI benchmark situation.

A second methodological comment refers to the widespread use of hedonic pricing models. Although we know since Rosen (1974) that a supply of and a demand for quality attributes does exist, hedonic pricing models are mostly used as reduced-form models, with the coefficients of the reduced-form models, i.e. the implicit prices of product characteristics, interpreted as indicators of consumer preferences. In many cases, this interpretation will not be correct. Suppose that the regional origin is protected by a geographical indication. On the wine market, we can expect that there is a positive impact of a geographical origin like Burgundy compared to an average wine region. There is, however, a supply effect, too. Many different wine production systems that stand for the terroir occur, thus leading to different marginal costs across regions. Transport costs towards a certain destination market will also vary across regions and yield differential marginal costs for various wines. The implicit price we would obtain from the reduced-form model would be a mixture of the impacts of a geographical origin on the demand (willingness to pay) and on supply (marginal costs).

I suggest substituting hedonic-pricing models, which are estimated in their reduced form, by estimating structural models of supply and demand including the effects of product characteristics on supply, demand, and equilibrium prices. Such structural models should properly incorporate the implications of geographical origin and other characteristics on consumer preferences and producers' marginal costs.

Relevant Additional Aspects on the Use of Geographical Indications in Developing Areas

Bramley, Biénabe and Kirsten argue that the economics of geographical indications in developing countries is more complicated and multifaceted. They view the GI system as being one of an international market access dimension. Two arguments should be added here:

- (i) there are middle-income developing countries like Brazil, China or India with huge domestic markets. Geographical indications may be an instrument here to successfully gain market shares domestically;
- (ii) a recent study in the *Journal of Rural Studies* (Tregear *et al* (2007)) showed that cooperation of producers under a protected GI system is key to the system's success.

Some Additional Findings on the Benefits of GIs for Developing Countries

There is some interesting new work on the benefits of geographical indications for developing countries. Grote (2007) as well as Teuber (2007) showed that strong price premia do exist for high-quality coffees from developing countries. Teuber used an Internet data set on coffee auctions and deduced that the implicit price of various regional origins is very positive compared with a "normal" coffee market.

Again, we have to be very careful here with hedonic modeling. We always talk about the price premium that can be captured by producing high-value commodities. However, we cannot directly compare the high-value price with the commodity price. Marginal costs rise under high-value production and it is necessary to compare the net price under a protected GI system with the commodity price. This is information which is normally unavailable.

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