The new institutional economics (NIE) approach to geographical indication (GI) supply chains: A case study from Turkey

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Pelin Bicen[1] *and Alan J. Malter*[2]
[1]Marketing, Sawyer Business School, Suffolk University, Boston, MA, United States,
[2]Marketing, Department of Managerial Studies, College of Business Administration, University of Illinois at Chicago, Chicago, IL, United States

8.1 Introduction

Agrifood systems have been experiencing major changes worldwide, generating tensions and conflicts that are reflected in international trade negotiations (Goff, 2005; Menard & Valceschini, 2005). Some of the most significant indicators of these changes are the fading out of state interventions that played a key role in protecting and preserving agricultural interests, the increasing pressure of global competition in agricultural trade, the emergence and dominance of highly concentrated retail chain stores that impose quality standards and costs to farmers, technological disruptions related to the development and distribution of genetically modified organisms (GMOs), and rising concerns over food quality and safety (Bramley, Bienabe, & Kirsten, 2009; Menard & Valceschini, 2005).

One essential strategic response to these changes in agrifood systems is the institutionalization of food quality and safety (Allaire, 2004). Asymmetric information between consumers and producers, which leads to market distortions through adverse selection and moral hazard, combined with an increased perception of uncertainty, leads to growing demand for food products with higher quality and safer characteristics (Akerlof, 1970). Quality standards communicate information about the attributes of a product. These attributes can pertain to the product itself (e.g., the color of a cocoa bean, the taste of chocolate) or to production and process methods, which may include environmental and socioeconomic conditions (e.g., fair trade, labor rights, organic), safety (e.g., pesticide use), and authenticity of origin (e.g., geographic appellation). Changing features of agrifood systems, consumption in industrialized economies, as well as social and environmental concerns have led consumers and economic actors in supply chain networks to seek more control,

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not only over products but also over production processes as well (Menard & Valceschini, 2005; Reardon, Codron, Busch, Bingen, & Harris, 2001). Therefore, quality control and management issues, traceability, quality certifications, norms, and codes that intend to certify the origin of components and ingredients are now among the most essential parts of discussions in signaling food quality and guaranteeing safety strategies (Ponte & Gibbon, 2005).

In this book chapter, we see quality management as a question of cooperation among the economic actors of agrifood supply chain networks, by each having control over certain aspects of information on the product, as well as production and process methods. Then, solving quality management problems relates to the coordination and governance issues among the economic actors in the value chain. How to define quality and establish procedures to measure quality should be coordinated, organized, and implemented by the actors of the value chain; and effective governance is needed to streamline this process. Depending on the transactional attributes of the exchange process to economize transaction costs, governance modes can be tighter (closer to vertical integration) or looser (closer to market coordination) or somewhere in between, e.g., hybrid governance (North, 1990; Williamson, 1985).

We discuss issues related to the concepts of food quality and safety, their management, and the most efficient ways of achieving them by focusing specifically on institutional arrangements that facilitate developing quality conventions and safety standards. We discuss institutions that govern, can govern, and should govern agricultural and marketing activities of supply chain networks to ensure food quality. Drawing on the new institutional economics (NIE) literature, we elaborate on how institutional arrangements (e.g., mode of governance) are related to the institutionalization of food quality and safety. Our discussion will focus on the distinctive quality convention, geographical indications (GIs).

Briefly, GIs are intellectual property (IP) rights for agrifood products that highlight the unique tie between the quality of the GI product and the territory where it is produced. This tie encompasses both physical (i.e., soil, climate, local variety, and breed) and human-related factors (i.e., local know-how, specific skills, historical traces) (Belletti, Marescotti, & Touzard, 2015). GI supply chain systems tend to be collective in nature and quality standards result from the efforts of many individuals over the course of years; thereby, IP rights belong to a representative organization of the GI supply chain network rather than individuals (Arfini, Mancini, & Donati, 2012; Thevenod-Mottet & Marie-Vivien, 2011).

This chapter is structured as follows. First, we provide a brief review of GI systems and explore their hybrid and collective nature. We then discuss the NIE explanation of the institutional arrangements of GI supply chain systems. Then, we illustrate how the hybrid and collective nature of GI governance mode is formed using a notable GI case study from Turkey, Gemlik table olives, with a focus on practical implications of GIs in the Turkish domestic market including farmers and consumers. Finally, we draw implications for the literature on institutional arrangements and discuss implications for further research on agrifood supply chain networks.

8.2 Geographical indication (GI) systems

GIs are a type of IP defined and protected by the World Trade Organization Agreement on Trade Related Aspects of Intellectual Property Rights (TRIPS) (Josling, 2006). Article 22.1 of the TRIPS agreement defines GIs as a good originating in a territory or regional sub-area within that territory, where a given quality, reputation, or other characteristics of the goods are essentially attributable to its specific geographical origin, and the production and/or processing and/or preparation of which take place in the defined geographical area. Like trademarks and brands, GIs serve an identification function and are registered and recognized by a government authority. Unlike ordinary trademarks and brands, which distinguish the goods of one enterprise from those of another, GIs necessarily identify the location from where the good originates (Josling, 2006) and can apply to all participating producers within that area. GI protection can be granted for the name of a region (e.g., Eastern Crete Olive Oil, Darjeeling Tea), a specific place (e.g., Roquefort), or, in exceptional cases, an entire country (e.g., Café de Colombia, Greek feta cheese) used to describe a food product. Feta cheese is a special example of a location-related food name that is not strictly speaking a GI since there is, in fact, no geographic place called feta. However, under EU law, feta cheese is considered a traditional nongeographical name worthy of protection, similar to a GI (O'Connor, 2004).

In practice, there are two GI categories: protected GI (PGI) and protected designation of origin (PDO). PDO is the term used to describe foodstuffs which are completely produced, processed, and prepared within the designated geographical area using recognized local know-how and skills. In contrast, for PGI designation, the geographical link must occur in at least one of the stages of production, processing, or preparation. PGI imposes explicit sanitary constraints that contribute to the product differentiation in terms of quality, whereas PDO is concerned about product quality, mainly through characteristics related to the origin of the product and to specific processes in its production (Menard & Valceschini, 2005). PDO status requires a variety of factors to be met: the region (e.g., climate, soil, breed) must contribute to the quality of the product and proof of this link must be demonstrated as part of the GI registration process; the region should be delimited and specific ingredients required in the production must be available only in that specific region; and production should be according to a special manufacturing technique and must be based on the knowledge of local producers built up over generations. A PDO is granted only to groups; individuals cannot apply for PDO status. Therefore, to obtain a PDO status, producers of a good must form a representative association to manage the application and operate the eventual quality and branding scheme.

Goff (2005) discusses GIs as contemporary examples of economic nationalism (or regionalism), where policies seek to preserve and promote a set of shared meanings, cultural values, and social practices held dear by a significant portion of a national citizenry. Relatedly, she argues that the real winners from

the GI system and regulations are the producers of the GI products and the consumers who assume that foodstuff names are indicators of "quality, origin, and authenticity" (p. 200).

By setting quality standards and enforcing their implementation, GIs promote rural livelihoods based on local resources and socioeconomic development, localize economic control by adding value to local production, and generate greater economic returns (Cacic, Tratnik, Kljusuric, Cacic, & Kovacevic, 2011; Folkeson, 2005; Jena & Grote, 2010). By providing a strong rural development tool, GI systems could constitute a strong rationale, especially for developing countries, to embrace and support origin-labeled products within a specific region (e.g., Bramley et al., 2009).

As a member of the developing countries list (e.g., IMF, 2015), Turkey joined the Paris convention, which was one of the first IP treaties, in 1925, and trademark law came into force in 1965. Turkish enactment of legal protection of GIs and implementation of regulations pertaining to the protection of GIs came into force in 1995 through Decree Law No. 555. The Turkish Patent Institute (TPI) is one of four public institutions in Turkey involved in certification of food quality and safety and acts as the certification and auditing body for trademarks and GIs (WIPO, 2014). As a candidate country for EU membership, Turkish food safety and environmental legislation is increasingly oriented toward EU standards (Koc, Asci, Alpas, Giray, & Gay, 2011).

The Turkish government has paid special attention to its GI system in recent years. GIs have been used as a strategic tool for rural development and competition (GTHB, 2013). Competitive pressure from globalized food production and retail companies prompted trade organizations, cooperatives, and producers of regional products to protect their brand identity and competitive advantage through GI registrations, which gives regional producers one product attribute that cannot be imitated by rivals outside the region. The increasing global race in agrifood industries resulted in increased numbers of GI registrations. There were only 25 Turkish GI applications in 1996, and by 2015, 180 products had been approved by the TPI and registered with a domestic Turkish GI certificate. Of these 180 products, 123 were agricultural and food products, including fruits, processed food, bakery items, oils, olives, and cheese. As of 2015, 196 applications for agricultural and processed food products were on the waiting list to obtain Turkish GI protection or designation of origin. Currently, only five Turkish GI products are in the EU's DOOR (Database of Origin and Registration) system [the DOOR database includes product names for foodstuffs registered with the EU as PDO, PGI, or TSG (Traditional Specialty Guaranteed), as well as names for which registration has been requested], four of which (Turkish apricots, figs, pastrami, and pepperoni) are still in the application process. Only one Turkish food product, Antep baklava, received PGI certification from the EU in 2013. Lack of control, leadership, and collective effort among farmers and organizations is cited among the top reasons for the current lack of EU-certified Turkish GI products (Dokuzlu, 2016; Gurkan, 2015).

8.3 The NIE approach to governance of GI supply chain networks

NIE is an approach that studies institutions and how they interact with modes of governance (Menard & Shirley, 2005). Institutions include both formal and informal rules and agreements with the purpose of reducing environmental uncertainty and unpredictability. Modes of governance include various forms of institutional arrangements, that is, the set of rules, laws, policies, customs, and norms that economic actors develop to facilitate transactions—i.e., contractual agreements that use formal structures and third-party enforcement to establish processes for joint actions and relational-based agreements that use social mechanisms such as social relations, shared norms, and self-enforcement to establish processes for joint action (North, 1990).

Transaction costs are at the heart of NIE. Arranging transactions among supply chain members is essential for organizing economic activities and requires complex devices both at the microlevel (modes of organizing these transfers) and at the macrolevel (institutions facilitating and enforcing these transfers) (Menard &Valceschini, 2005). The choice of organizational arrangements/modes embedded in the institutional environment are meant to minimize the cost of transactions, which are mostly determined by uncertainty surrounding these transactions and the degree of specificity of assets involved in these transactions (Klein, 2005; Williamson, 1985).

Organizational arrangements may take several forms: spot markets, vertical arrangements, and hybrid forms. In spot markets, transactions are simple and market prices are the signaling mechanism for parties' adaptation to changing circumstances. Spot markets are most effective when actors have full information and exchanges between them are not frequent and straightforward. At the other end lies full vertical integration, where one party has unified ownership and control. This governance mode appears when relationship specific assets are at stake, input markets are thin, uncertainty is high, and there is a greater need for specific investment protection, producing high transaction costs (Williamson, 1991). Hybrid forms are complex arrangements and have four distinct characteristics (Barjolle, Sylvander, & Thevenod-Mottet, 2011; Gulati & Singh, 1998; Menard, 2004; Menard & Valceschini, 2005): (1) A number of small businesses are related to each other by specific interbusiness interactions; (2) parties pool their resources and individual competences while keeping their financial autonomy and decision rights distinct; (3) sets of both formal rules (incomplete contracts) and social norms are used to govern the transactions among the parties; and (4) "coopetition" (simultaneous existence of cooperation and competition) among the parties makes the rent distribution issue problematic. Since hybrid forms can rely neither on market prices nor on commands to manage conflicts, there needs to be alternative forms of authority/regulatory bodies to govern complex arrangements among parties who maintain some distinct legal property rights.

There has been a growing demand for, and attention to, the qualities of agricultural products as a result of increased awareness of food safety and security (Goff, 2005). In particular, some of the more recent problems with food product quality (e.g., the "mad cow"/bovine spongiform encephalopathy (BSE) crisis and the H5N1 bird flu pandemic) have increased concerns for traceability and quality control issues. As Menard and Valceschini (2005) highlighted, traceability is an organizational response to the quality signaling problem. Due to concerns about the increase in genetically modified food (GMOs) and internationalization of trade, consumers are leveling up their quality control demands over processes, as well as control over products from food producers, and asking for quality certification that guarantees both health and environmental qualities. One solution to this problem may involve a choice of governance mode that minimizes the transaction cost while making credible signals, and/or the development of institutional devices that back traceability by guaranteeing adequate enforcement such as institutional guarantees. While choosing the optimal solution among the alternate solutions to quality control and traceability problems, it is important to identify their respective transaction costs and conduct a comparative assessment (Menard & Valceschini, 2005).

One way to tackle the quality control issue is the organizational approach, which focuses on the governance mode throughout the agrifood chain to ensure better quality control. GI systems, for example, adopt a hybrid governance mode where a network of interdependent members holding autonomy and distinct rights make high specific investments and develop tight coordination among themselves through a third-party private certifying organization. This effort is backed by public authorities who are responsible for approving the certifying organization and forcing it to follow strict rules with respect to the predefined quality standards, methods of production, and quality control mechanisms for guaranteeing whether the products developed conform with the quality signal. GI systems use a mix of public and private institutional devices for controlling and monitoring the control issues in the chain. Since GI product quality is certified by an independent organization whose credibility is backed by government enforcement, coordination problems in the chain are largely mitigated (Raynaud, Sauvee, & Valceschini, 2005). Given high uncertainty in the agrifood industrial environment, it is far too complex and, therefore, costly to draft and implement complete contracts ex ante. Instead, hybrid forms of arrangements are drafted as frameworks to boost the relational quality among economic actors in the chain and, therefore, make the threat of economic expulsion and social ostracism due to possible contractual hazards too costly to bear. As a result, hybrid form arrangements provide supply chain participants with confidence that the relationship is worth making a special investment in and leaves ways to ex post adjustments such that parties can still make changes in the arrangements until after it is drafted. In the next section, we discuss a GI case from Turkey, Gemlik table olives, focusing on how the hybrid mode of governance in the supply chain network is formed and its positive impact on the regional economy as well as consumer confidence.

8.4 A case study from Turkey: Gemlik table olives

As of 2014/2015, Turkey has been the third largest producer of table olives in the world [top table olives producers include the EU (e.g., Italy, Greece, Spain), Egypt, Turkey, Algeria, and Syria (IOCC, 2016)], after the EU and Egypt, with around 16% of world market share (IOCC, 2016). Eighty percent of Turkey's olive production is used for domestic consumption; the balance is exported to other countries. Though it ranks among the world's largest producers of table olives, Turkey's olive productivity is low compared to other top ranking countries. In recent years, though the number of olive trees that produce table olives has increased, the productivity rate has not met expectations (see Table 8.1). Turkey is mainly at the low-quality end of the global value chain for table olives. The issue of quality is partly attributed to dysfunctional supply chain activities, such as the lack of communication and coordination among supply chain members (e.g., farmers, traders, retailers, nongovernment organizations), and a lack of centralized management (Gurkan, 2015).

The world market for table olives has been going through significant changes, including increased global competition (e.g., table olive production increased more than 70% and exports increased 88% worldwide in the last two decades) (IOCC, 2016); progress in advanced olive production and processing technologies; new players in international markets, especially from New World producers such as the USA, Argentina, Chile, Mexico, and Peru; new conventional quality standards set mainly by the EU (e.g., PDO and PGI); and increased consumer awareness of food quality and safety (Bramley et al., 2009). All these changes combined with domestic productivity and quality issues challenge Turkish olive producers and organizations to find long-term solutions to remain competitive.

Institutions and modes of organization that should govern agricultural activities are at the heart of solving quality issues by setting quality standards. As discussed earlier, one such essential quality standard is GIs. We examine a successful PDO

Table 8.1 Table olive production volumes and productivity levels in Turkey

Year	Production (tons)	Average productivity (kg/tree)	Total number of olive trees
2008	512,103	15	33,599,163
2009	460,013	14	33,936,299
2010	375,000	11	35,611,525
2011	550,000	14	39,176,479
2012	480,000	12	40,252,330
2013	390,000	9	45,235,836
2014	438,000	10	45,519,208

Source: Zeytincilik Sektor Raporu (2015).

case of Turkish Gemlik table olives, focusing on how institutional arrangements are formed in the value chain and resulting improvement in performance outcomes.

The Gemlik region, the gulf of northwestern Turkey, is a significant producer in the black table olives market with Gemlik cultivar olives. These are small-to-medium sized black olives with high oil content and are processed most commonly in brine. Special microclimatic conditions (e.g., climate, topography, soil) that dominate the Gemlik region and local olive producers' treatment of the trees enable them to produce olives of unique taste, color, texture, and shape. The sign of a traditionally cured Gemlik olive is that it is meaty and the flesh comes away from the stone easily. Owing to its high oil content (29%), any fruit that cannot be used for pickling is used for olive oil production, so this cultivar is considered dual-purpose. The Gemlik region accounts for approximately 20% of overall table olive production in Turkey (GTB, 2017).

The Gemlik GI was registered as a PDO in 2003 and covers three districts: Gemlik, İznik, and Orhangazi. The PDO designation indicates that olives produced and processed in these districts are Gemlik olives. The trademark rights holder is a public organization called Gemlik Commodity Exchange (GTB). Though the PDO registration occurred in 2003, benefits from the GI system started to emerge in 2010, when GI control and monitoring mechanisms were implemented (Dokuzlu, 2016). The GTB, as a common coordinating and controlling body and public certifying organization, manages, organizes, monitors, and audits the PDO supply chain in terms of quality standards and quality measurements. The GTB auditing committee consists of several experts from the field, including farmers, academics, and NGO representatives. The auditing and certification unit is responsible for (1) quality control of the product with respect to its code of practice; (2) information and advice to the members; and (3) collective market promotion of the Gemlik olive designation of origin, R&D, arbitration among the members, as well as management of volumes and fixing of internal prices within the supply chain. The emergence of a GI system for table olives in the Gemlik region as a complex hybrid arrangement is an endogenous solution to the quality and traceability problem. The development of institutional mechanisms such as the GTB makes these solutions credible in guaranteeing adequate enforcement of the quality standard.

The supply chain network of Gemlik olives consists of olive farmers, traders, and retailers (see Fig. 8.1). Official members of the Gemlik PDO supply chain retain legal and financial autonomy and deal commercially with partners of their choice within the official group of members. If traders or retailers want to use a Gemlik olive PDO label on their product package, they must agree on terms and sign an agreement with GTB that tracks and monitors the use of the label aligned with the appropriate quality standards of the PDO (Dokuzlu, 2016).

The GI supply chain of Gemlik olives has two levels: (1) a horizontal level involving collaboration between competing olive farmers of the same level, and (2) a vertical level consisting of supply chain members at the various stages (e.g., farmers, processors, traders, retailers) (see Fig. 8.1). Members of the network are spatially proximate. GTB, as the third party and main governing institution, and the independently assigned expert auditing team (e.g., universities, NGOs located

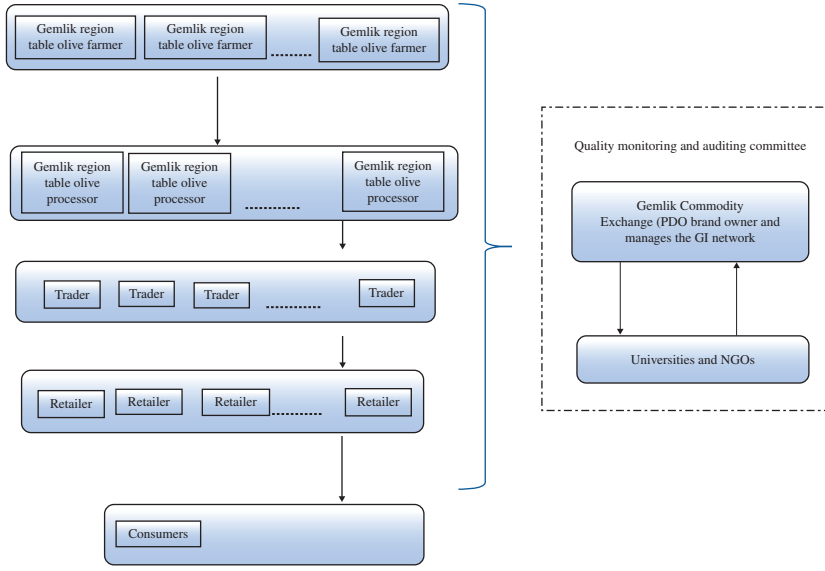

Figure 8.1 General structure of the Gemlik table olive GI supply chain network.

within the GI geographical boundaries) are responsible for inspection and monitoring of product quality. The auditing team regularly monitors production facilities and label users by taking samples from labeled products and testing for compliance with the quality standards. According to set rules and procedures, if the packaged table olives are not in compliance with the PDO quality standards, label users/traders or farmers will be penalized by the GTB for violation of agreements. The GTB has the right to pursue a legal remedy if the situation persists (Dokuzlu, 2016).

By Turkish law, the GTB is not only responsible for quality monitoring but also for overseeing tracking, marketing, sales, branding, packaging, and labeling. In contrast to producers in EU member countries, who are obliged to use PDO and PGI logos on product labels, there is no such obligation for non-EU members (Kireeva, 2011). In fact, there is no specific or standard logo for Turkish GI products. The GTB has developed its own official logo for Gemlik table olives (Fig. 8.2). GTB also closely monitors the registered farmers, their production levels, and tracks sales. When a trader/retailer applies to GTB with the receipt from a registered farmer, they earn the right to be in the system and use the Gemlik table olives GI logo on their packages. The receipt provides information on the sold quantity which is entered in a centralized database to monitor the total capacity and production levels of the farmers, and the identity of the economic actors (e.g., farmers, traders, retailers) involved in the trade. Before applicants receive the GI logo, they are required to sign an agreement with the GTB indicating that they comply with the quality standards and will face legal challenges if they do not comply with the signed agreement (GTB, 2017). GTB provides an updated list of the Gemlik table olives GI members on a timely basis on their website to inform the public and create transparency in the system.

Figure 8.2 Gemlik table olives' GI logo.

Collective action among the Gemlik region olive farmers and processors, traders/retailers, and the GTB, in conjunction with universities, reduces the transaction and coordination costs of exchanges. Collective action in the network cemented by written agreements on quality and negotiation, and a dynamic social mechanism based on trust and reciprocity, decreases the risks of opportunistic behavior and moral hazard (TEPGE, 2012). Further, due to the trust-based and collective nature of GI systems, there is a low level of direct competition between GI members of Gemlik table olive producers as well as the absence of firms with monopoly power in the region (Belletti et al., 2015). The GTB shows that institutional support can facilitate collective action by offering a negotiation framework for transaction costs, risks, and benefits. The GTB's structured organizational policies for managing membership, tracking and monitoring its members and their production levels, penalizing members who are involved in unfair practices and/or do not comply with the quality standards, and conducting marketing and branding activities on behalf of the GI network, have increased the effectiveness of the collective efforts among members (GTSO, 2016). Gemlik table olives was registered as a Turkish PDO in 2003. The GTB completed the GI project (e.g., centralized database, logo, labels, QR code creation and promotional campaigns) in 2014 (Dokuzlu, 2016). The GTB is currently working to educate farmers, traders, retailers, and consumers about the concept of GI—how it works socially, economically, and politically; how the GI logo can be an effective signaling tool for quality; and how collective efforts of the GI network can lay the foundation for virtuous economic development of the region (GTSO, 2016).

8.5 Concluding remarks

GIs are institutional constructions connecting the specific quality and reputation of a product to a specific territory (Belletti et al., 2015). GIs are collective by nature and economic actors (e.g., producers, processors, retailers, traders, nongovernmental

institutions, universities) are involved in technical, social, and economic interactions. Actors in the system define what quality is and set the quality standards collectively. In this way, they shape the identity of the GI product by linking its specific quality attributes to the territory where ingredients originate and/or are produced and processed. The GI is owned by the representative organization of the GI network, which gives it the authority to manage the network (e.g., monitoring, tracking, auditing) to ensure that members of the network comply with the set GI product quality standards. GIs contribute to market regulation, reduce the information asymmetry between consumers and firms, have a positive impact on regional economies and development processes, and facilitate the protection of natural and cultural resources (Barjolle et al., 2011; Belletti et al., 2015; Bramley & Bienabe, 2012). GI protection shields domestic producers from unfair competition, but it can also discriminate against domestic producers who do not belong to the recognized consortium of product manufacturers to which GI protection has been accorded (Goff, 2005).

Based on the frequency of transactions among the economic actors, the uncertainty regarding these transactions, and the degree of asset specificity involved, GI systems adopt hybrid forms of governance to minimize transaction costs. GI networks have two levels: a horizontal level of collaboration (e.g., among farmers and producers) and a vertical level of quasiintegration among farmers, processors, traders, retailers, and a third-party representative organization. Distinct characteristics of GI systems are that economic actors share resources while keeping their financial autonomy. The main institutional mechanism is based on incomplete formal contracts, relational bonds, and social cohesiveness, and due to its hybrid and, thus, coopetitive nature, rent sharing and dispute resolution are particularly acute (Menard, 2004; Menard & Valceschini, 2005).

Drawing on the NIE literature to further our understanding of hybrid forms of governance in GI networks, we have explored a recent GI case from Turkey. The Gemlik table olives case represents the Gemlik region's need for GI to boost regional economic development and competitiveness in both domestic and international markets. Further, we have described how hybrid governance is formed and how it functions in this case, and more generally we have reviewed important legal and political institutions, such as the TPI and GTB, and how they impact the ways and costs of organizing transactions in the Gemlik table olives GI network; as well as GTB's efforts to monitor, trace, and organize transactions among actors to ensure that members of the network comply with the agreed quality standards. Though the Gemlik table olives GI registration was completed in 2003, it has taken more than a decade for GTB to show progress on the GI project regarding infrastructure building, public education, promotional campaigns, and tracking the impact of the GI system on regional competitiveness. Early reports support the positive impact of the GI system on the regional economy, as well as on reduction in moral hazard and adverse selection problems by closing the informational asymmetry between producers and consumers. More recently, the GTB was in meetings and consortiums with European Council officials to exchange information on how Gemlik table olives can be more than a Turkish regional brand and possibly expand its horizon as a

strong and reputable brand in global markets (Gemliklife, 2016). Some of the initiatives the GTB executives have taken recently to solidify this objective include being engaged in partnerships with European countries to learn the general European taste/preference on olives; learning from the planting, harvesting, and cultivation processes used by European farmers; and R&D partnership projects with the European Union to enhance initiatives for olive research, education, and training (Gurkan, 2015).

References

Akerlof, G. A. (1970). The market for "lemons": Quality uncertainty and the market Mechanism. *The Quarterly Journal of Economics.*, *84*(3), 488–500.

Allaire, G. (2004). Quality in economics, a cognitive perspective. In M. Harvey, A. Mc Meekin, & A. Warde (Eds.), *Theoretical approaches to food quality*. Manchester: Manchester University Press.

Arfini, F., Mancini, M. C., & Donati, M. (2012). *Local agri-food systems in a global world: market, social and environmental challenges*. Cambridge: Cambridge Scholars Publishing.

Barjolle, D., Sylvander, B., & Thevenod-Mottet, E. (2011). Public policies and geographical indications. In E. Barham, & B. Sylvander (Eds.), *Labels of origin for food: Local development, global recognition* (pp. 92–105). Wallingford: CABI.

Belletti, G., Marescotti, A., & Touzard, J. M. (2015). Geographical indications, public goods, and sustainable development: The roles of actors' strategies and public policies. *World Development*. Available from https://doi.org/10.1016/j.worlddev.2015.05.004.

Bramley, C., & Bienabe, E. (2012). Developments and considerations around geographical indications in the developing world. *Queen Mary Journal of Intellectual Property.*, *2*(1), 14–37.

Bramley, C., Bienabe, E., & Kirsten, J. (2009). *The economics of geographical indications: Towards a conceptual framework for geographical indication research in developing countries,* (pp. 109–141). Geneva: World Intellectual Property Organization.

Cacic, J., Tratnik, M., Kljusuric, J. G., Cacic, D., & Kovacevic, D. (2011). Wine with geographical indication – Awareness of Croatian consumers. *British Food Journal.*, *113*(1), 66–77.

Dokuzlu, S. (2016). Geographical indications, implementation and traceability: Gemlik table olives. *British Food Journal.*, *118*(9), 2074–2085.

Folkeson, C. (2005). *Geographical indications and rural development in the EU*. Available at: ⟨https://lup.lub.lu.se/luur/download?func = downloadFile&recordOId = 1334511&fileOId = 1647280⟩ Accessed 4 May 2017.

Gemliklife. (2016). *Gemlik zeytini Avrupa'ya aciliyor*. Available from: ⟨http://gemliklife.net/en-US/haberler/3365/gemlik-zeytini-avrupaya-aciliyor⟩ Accessed 4 February 2017.

Goff, P. M. (2005). It's got to be sheep's milk or nothing. In E. Hellenier, & A. Pickel (Eds.), *Economic nationalism in a globalizing world* (pp. 183–201). Ithaca: Cornell University Press.

GTB. (2017). *Gemlik Zeytini coğrafi işaret*. Available from: ⟨http://www.gemliktb.org.tr/cografi-isaret/⟩ Accessed 17 April 2017.

GTHB. (2013). *Strategic plan of food, agriculture and husbandry. Ministry of Turkish Republic 2013–2017*. Available at: ⟨www.tarim.gov.tr/SGB/Belgeler/Stratejik%20Plan%202013-2017.pdf⟩ Accessed May 11, 2017.

GTSO. (2016). *Tarim, gida, zeytincilik sektor raporu*. Available from: ⟨http://www.gtso.org.tr/dosya/tarim-gida-zeytin-SA.pdf⟩ Accessed 3rd April 2017.

Gulati, R., & Singh, H. (1998). The architecture of cooperation: Managing coordination costs appropriation concerns in strategic alliances. *Administrative Science Quarterly.*, *43*(4), 781–814.

Gurkan, N.P. (2015). *Turkish olive oil sectoral innovation system: A functional-structural analysis*. Unpublished dissertation, Middle East Technical University.

IMF (2015). World Economic Outlook: Uneven growth-Short and long term factors. Washington, DC: IMF.

IOCC (2016). *World olive figures*. Available from: ⟨http://www.internationaloliveoil.org/estaticos/view/131-world-olive-oil-figures⟩ Accessed 20 March 2017.

Jena, P. R., & Grote, U. (2010). Changing institutions to protect regional heritage: A case for geographical indications in the Indian agrifood sector. *Development Policy Review.*, *28*(2), 217–236.

Josling, T. (2006). What's in a name? The economics, law and politics of geographical indications for foods and beverages. *IIIS discussion paper no. 109*.

Kireeva, I. (2011). How to register geographical indications in the European community. *World Patent Information*, *33*, 72–77.

Klein, P. G. (2005). The make or buy decisions: Lessons from empirical studies. In C. Menard, & M. Shirley (Eds.), *Handbook of new institutional economics.* (pp. 435–464). Berlin: Springer.

Koc, A.A., Asci, S., Alpas, H., Giray, F.H., & Gay, H. (2011). Food quality assurance schemes in Turkey. *JRC scientific and technical reports*.

Menard, C. (2004). The economics of hybrid organizations. *Journal of Institutional and Theoretical Economics.*, *160*, 345–376.

Menard, C., & Valceschini, V. (2005). New institutions for governing the agri-food industry. *European Review of Agricultural Economics.*, *32*(3), 421–440.

Menard, C., & Shirley, M. (2005). Introduction. In C. Menard, & M. Shirley (Eds.), *Handbook of new institutional economics.* (pp. 1–18). Berlin: Springer.

North, D. C. (1990). *Institutions, institutional change and economic performance*. Cambridge: Cambridge University Press.

O'Connor, B. (2004). *The law of geographical indications*. London: Cameron & May.

Ponte, S., & Gibbon, P. (2005). Quality standards, conventions, and the governance of global value chains. *Economy and Society.*, *34*(1), 1–31.

Raynaud, E., Sauvee, L. C., & Valceschini, E. (2005). Alignment between quality enforcement devices and governance structures in the agro-food vertical chains. *Journal of Management and Governance.*, *9*, 47–77.

Reardon, T., Codron, J. M., Busch, L., Bingen, J., & Harris, C. (2001). Global change in agrifood grades and standards: Agribusiness strategic responses in developing countries. *International Food and Agribusiness Management.*, *2*(3–4), 421–435.

TEPGE (2012). Dogu Akdeniz Bolgesinde Zeytin ve Zeytinyagı Uretimi, Pazarlaması ve Bolgede Zeytinciligi Gelistirme Olanakları. Tarımsal Ekonomi ve Politika Gelistirme Enstitusu, Ankara.

Thevenod-Mottet, E., & Marie-Vivien, D. (2011). Legal debates surrounding geographical indications. Labels of origin for food. In E. Barham, & B. Sylvander (Eds.), *Local development, global recognition*. Wallingford: CAB International.

Williamson, O. E. (1991). Comparative economic organization: The analysis of discrete structural alternatives. *Administrative Science Quarterly.*, *36*(2), 269−296.

Williamson, O. E. (1985). *The economic institutions of capitalism: Firms, markets, relational contracting*. New York: Free Press.

WIPO. (2014). *Geographical indications: What is a geographical indication?*Available from: ⟨www.wipo.int/geo_indications/en/⟩ Accessed 17 April 2017.

Zeytincilik Sektor Raporu (2015). TR63 Bölgesi: Zeytincilik Sektör Raporu 2015. Available from ⟨http://www.dogaka.gov.tr/Icerik/Dosya/www.dogaka.gov.tr_619_LZ0P55ES_Zeytincilik-Sektor-Raporu-2015.pdf⟩ Accessed 17 May 2017.