



Is It Possible to Create a World Brand in Olive Oil?: The Case of Milas Olive Oil

*Zeytinyağında Bir Dünya Markası Yaratmak Mümkün mü?
Milas Zeytinyağı Örneği*

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Cite as: Terzioğlu, M. & Gökövalı, U. (2024). Is It Possible to Create a World Brand in Olive Oil? The Case of Milas Olive Oil, The Journal of Agricultural Researches (JAER), 10 (2), 261-281

JEL classification codes / *JEL Sınıflaması kodları*: Q11, Q13, D20

DOI: 10.61513/tead.1259388

Article Type / *Makale Türü*: Review / *Derleme*

Geliş tarihi / *Received date*: 02/03/2023

Kabul tarihi / *Accepted date*: 09/06/2023

e-ISSN: 2687 – 2765

Cilt / *Volume*: 10, Sayı / *Issue*: 2, Yıl / *Year*: 2024

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Abstract

Geographical Indication (GI) is a sign used to distinguish a product from its similar products and shows that the product has a certain geographical origin and has the quality or reputation arising from this origin. With this “product differentiation” features of the GI, it may lead products to be sold at higher prices compared to standard products. Milas olive oil is Türkiye’s first and only olive oil registered as a GI in the European Union (EU) thus has the potential to be recognized worldwide and be sold at higher prices. The current study compares and contrasts the organizational structure of production and marketing strategy of Milas olive oil with Tuscany olive oil from Italy and Sierra de Segura olive oil from Spain, both of which have registered GI in the EU. The organizational structures of production of these two world-famous olive oils were examined and a price comparison was made among GI registered olive oils. The findings show that the importance of GI in Türkiye and in Milas is not yet fully perceived and the necessary importance is not given to organizational structure of production of olive oil. In order to obtain the potential economic benefits from Milas olive oil through well-established organizational structure, a roadmap is presented based on both the selected country examples and on the conditions specific to Türkiye.

Keywords: Geographical indication, Milas olive oil, Pricing, Organizational structure of production

Zeytinyađında Bir Dünya Markası Yaratmak Mümkün mü?: Milas Zeytinyađı Örneđi

Öz

Cođrafi İşaret (Cİ), bir ürünü benzer ürünlerinden ayırt etmek için kullanılan bir işarettir ve ürünün belirli bir cođrafi kökene sahip olduğunu ve bu kökenden kaynaklanan nitelik veya itibara sahip olduğunu gösterir. Cİ’nin bu “ürün farklılaştırma” özelliđi ile ürünlerin standart ürünlere göre daha yüksek fiyatlarla satılmasına neden olabilir. Milas zeytinyađı, Türkiye’nin Avrupa Birliđi’nde (AB) Cİ olarak tescil edilen ilk ve tek zeytinyađı olması nedeniyle dünya çapında tanınma ve daha yüksek fiyatlarla satılma potansiyeline sahiptir. Bu çalıřma, Milas zeytinyađının üretim organizasyonu ve pazarlama stratejisini, her ikisi de AB’de tescilli Cİ’e sahip olan İtalya’dan Toskana zeytinyađı ve İspanya’dan Sierra de Segura zeytinyađı ile kıyaslamakta ve karşılařtırmaktadır. Dünyaca ünlü bu iki zeytinyađının üretim organizasyon yapıları incelenmiř ve Cİ tescilli zeytinyađları arasında fiyat karşılařtırması yapılmıřtır. Bulgular, Türkiye’de ve Milas’ta Cİ’nin öneminin henüz tam olarak algılanmadığını ve zeytinyađı üretiminin organizasyon yapısına gereken önemin verilmediđini göstermektedir. Milas zeytinyađından elde edilebilecek potansiyel ekonomik faydaların iyi yapılandırılmıř bir organizasyon yapısı ile elde edilebilmesi için hem seçilen ülke örneklerinden hem de Türkiye’ye özgü kořullardan yola çıkarak bir yol haritası sunulmaktadır.

Anahtar Kelimeler: Cođrafi işaret, Milas zeytinyađı, Fiyatlama, Üretimin organizasyonel yapısı

1. INTRODUCTION

Olive is a fruit that widely grows in the Mediterranean region and has a history of thousands of years. In Türkiye, as being one of the Mediterranean countries, olive has been grown since the ancient times and has become a way of life and main source of livelihood for people. Today, the olive-based lifestyle continues in Türkiye, as in many Mediterranean countries, and this lifestyle is the source of both consumption and livelihood for many farmers and families. In 2019, nearly two-thirds (1.93 million tons) of all the olive oil produced in the world (3.1 million tons) was produced by European Union (EU) countries, while 7% (218 thousand tons) was produced in Türkiye. These data are the most important findings showing that the economy based on olive oil continues to maintain its importance in the region (FAO, 2022).

Milas one of the districts of Muğla is among the prominent provinces in Türkiye in terms of olive cultivation and olive oil production. Olive cultivation and olive oil production have been the primary agricultural activity in Milas for thousands of years such that a press bed dated to 2000 BC was found on the Milas-Bodrum road, and olive mills and rendering plants in the Menteşe Sanjak are mentioned in the Ottoman Empire records of the 16th and 17th centuries. Olive and olive oil production still continue to be leading agricultural production activities in the region.

Milas olives and olive oil have characteristics specific to the region and differ from other olives and olive oils due to the way they are cultivated and due to climate and natural conditions they are grown in. Because of these specific characteristics of Milas olive oil, it has been registered and protected by Turkish Patent and Trademark Office since 2016 according to Article 34 of the Turkish Intellectual Property Law No. 6769. Later in 2017, Milas Chamber of Commerce and Industry applied to EU for GI protection and obtain registration from to the EU as of 2020 against all kinds of abuse, imitation and association becoming the first olive oil from Türkiye to be protected by the EU with GI.

Some olive oils that have GI registration from the EU have gained worldwide recognition are sold at higher prices than other olive oils and provide very important economic gains to their producers. Although GI registration can create economic value for olive oils, registration alone is not sufficient to reap all the potential economic benefits of the protection. In order to obtain all the economic benefits from protection, producers should keep up production specification and create a well-organized structure around GI product. Otherwise, it is not possible for producers to benefit from the economic gains.

Milas olive oil is Türkiye's first and only olive oil registered by the EU. Although the importance given to Milas olive oil has increased especially after its registration, its potential economic benefits have not yet been fully recognized. On the other hand, specific examples from some other countries show that olive oil producers who are well-organized as a union around GI registration, they are able to create much more income, employment and foreign exchange earnings compared to that of unregistered olive oils. The purpose of the current study is to explore the possibility of developing a well-structured organization around GI registration for Milas olive oil by comparing and contrasting it with Italy-Tuscany and Spain-Sierra de Segura Olive Oils all registered by the EU. By accurately assessing these two world-wide well-known olive oils and how olive-oil producers organize around GI registration in a value-chain from field to fork, this study will offer insight to propose a road map for producers of Milas Olive Oil. To do so, this study used secondary data such as publication, reports and statistics. Written documents and data sets containing information related to the research subject were reviewed in detail. With this method, the information obtained for different regions was evaluated comparatively. Thus, policy recommendations can be developed for the Milas region.

In this context, firstly, the concept of GI and the economic effects of GI protection are briefly discussed. In the second section, olive oil production in the world, EU and Türkiye is

analyzed on the basis of the relevant data. The third section briefly overviews the GI organization structures of “Tuscany Olive Oils” from Italy and “Sierra de Segura Olive Oils” from Spain, which are all registered by the EU and are world-wide well-known olive oils. The third section also discusses the organizational structure of producers of “South Aegean Olive Oils” from Türkiye which has only been registered in Türkiye. The income and export opportunities that Milas olive oil would gain if a better marketing and well-organized value chain are to be established are discussed in the fourth section. The last section is reserved for policy recommendations and a roadmap to increase the added value of Milas olive oil.

2. THE CONCEPT OF GI AND THE ECONOMIC EFFECTS OF GI PROTECTION

GI, one of the Intellectual Property Rights, is a sign used to distinguish a product from its similar products and used on products that have a specific geographical origin and has the quality or reputation arising from this origin (WIPO, 2022). GI is generally used for agricultural products, foodstuffs, wine and spirits, handicrafts and industrial products. Protection is provided in four different ways in the EU. These are protected designations of origin (PDO), protected geographical indication (PGI), GI and the traditional specialty guaranteed (TSG). PDO and PGI are designed for agricultural products and foodstuffs, and wines whereas GI is used for spirit drinks and aromatised wines. TSG are names of products referring to traditional methods of production and recipes. To be protected as PDO, all the production, processing and other processes of the product should take place in specified geographical area, region or in exceptional case in a country. The products must take all or its essential features from the natural (raw materials, environmental characteristics, location) and human factors (traditional and craft production) of this specified geographical area. For the label PGI,

at least one of the production steps of the product must originate from that specified area, region or a country whose given quality, reputation or other characteristics are essentially attributable to its geographical origin.¹

Protection of GI is usually obtained through registration with the national authorities. The GI right is a collective monopoly right. Therefore, anyone in the area of origin, who complies with the rules specified in the GI registration can produce and sell that product. Those who have the right to use GI may prevent the product from being produced and released to the market by a third party that does not comply with the applicable standards, but cannot prevent another person from producing the product subject to registration, provided that they comply with the standards and techniques specified in the registration. Thus, the legal protection provided by the GI prevents unfair competition deterring imitation, free-riding and/or trading by third parties. However, GI protection does not prevent the production or sale of similar products under another name.

There are important differences between countries in terms of legal regulations of GI protection. Although harmonization efforts regarding the international application and registration of GIs are possible with the Lisbon System (Lisbon Agreement of 1958 and Geneva Text of 2015) managed by the World Intellectual Property Organization (WIPO, 2022), it is not possible to obtain GI registration worldwide due to small number of signatory countries of the Lisbon System (it has 30 members on 05.05.2022). Therefore, the opportunity to apply for worldwide or regional GI registration through this system is very limited. However, it is possible to obtain regional GI registration from the EU by applying to the European Commission within the framework of the Council of Europe Regulation No. 2021/1151 on Quality Schemes for Agricultural Products and Foodstuffs for protection in all the EU member states (TurkPatent, 2019).

¹ For more detailed information:
<https://agriculture.ec.europa.eu/farming/geographical->

[indications-and-quality-schemes/geographical-indications-and-quality-schemes-explained_en](https://agriculture.ec.europa.eu/farming/geographical-indications-and-quality-schemes/geographical-indications-and-quality-schemes-explained_en)

The importance given to the GI protection has been increasing both in the world and in Türkiye. One of the most important reasons for this trend is the increasing demand of people for local, authentic, natural and traditional products (among others see Ilbery et al, 2000; Pienial et al., 2009; Fernandez-Ferrin et al., 2018). The products protected with GI originating from a certain area or region, convey information to the consumers that that product is unique to that region thus signalling some quality features for the customers. Recognition of this features of GI, many institutions, local authorities, cooperatives and producer associations use GI as a marketing tool to obtain potential economic returns. The economic effects of the protection of a product with GI registration can be considered as micro and macro-economic level. The effects of GI in terms of microeconomics can be listed as but not limited to signaling reputation and giving marketing opportunities, leading to both product and price differentiation (among others see Dogan and Gökovalı 2012; Gökovalı, 2007; Rangnekar, 2004; Muça et al., 2021; Dokuzlu et al. 2019). These in turn can lead to production increase and ensuring a fairer income distribution for the local producers. In terms of macroeconomics, the effects can be listed as the creation of potentials for rural development, growth, employment and foreign exchange incomes (among others see Dogan and Gökovalı 2012; Gökovalı, 2007; Rangnekar, 2004; Bramley et al.,2009).

It takes time, effort and cost for a product to be recognized in the market and to establish trust for consumers. In some cases, consumers may not have complete information about the identity of the product available in the market, that is, asymmetric information may occur for consumers (Akerlof, 1970). When this is the case, GI protection gives signal to the consumers about the region where a product is produced/originated, by functioning as a kind of brand and enables the consumer to distinguish the product in the market, thus reducing the search cost of consumers (among others see Dogan and Gökovalı 2012; Bramley et al.,2009). Since GI is valid for already existing products which have a certain recognition

and reputation, producers of this product will not bear the cost of creating and promoting new products. Therefore, while GI protection eliminates asymmetric information for the consumer and gives the product a market identity compared to its other equivalents and it will not cause any additional cost for the development of a new product.

GI differentiates a product from other products, causing it to be sold at a premium price. This would create a higher income for producers under several conditions (Gökovalı, 2007; Doğan and Gökovalı, 2012). One of the most important condition for a higher income for producers is the creation of a value chain around GI so that they eliminate the intermediaries. All producers can benefit from this protection and benefit from potential revenue growth, provided that they comply with the product/production specifications and conditions of the registered product.

GI protection also has positive effects in terms of preserving traditional knowledge and cultural values (among others see Tashiro et al. 2019; Dagne, 2014). With the production in accordance with the rules specified in the GI registration, it is possible to protect the unique characteristics and quality of the product and transfer it to next generations. Since the product itself and/or the production method protected with GI recorded under the documents provided with the GI registration, it is not only recorded but also transferred to next generation thus preserving traditional knowledge and local culture.

Macroeconomic effects of GI protection can be both at local and country level. GI may contribute to growth and development of rural areas and/or developing countries, increase employment and export opportunities (among others see Gökovalı, 2007; Doğan and Gökovalı, 2012; Rangnekar, 2004; Bramley et al.,2009). GI protection is generally available for products grown/produced in rural areas. Therefore, the product and price differentiation provided by the GI registration and protection can contribute to income generation thus creating growth and development opportunities for these rural areas.

This will not only generate income opportunities but employment opportunities as well which in return would prevent migration from rural areas by creating more jobs and employment. It is because with development and generation of income, more locals would engage with production. All these effects combined would even led to exports thus potential benefit from international trade.

In addition to these direct effects of GI protection, it may also lead to national and international tourism activities (among others see Dogan and Gökovalı, 2012; Bramley et al. 2009; Pamukçu et al. 2021). As GI protection brings differences such as quality and local authenticity to the product, people may want to experience this difference in the region. Thus, GI protection may lead to the development and expansion of tourism activities and thus making the macroeconomic effects (such as income generation, employment opportunities) created by the protection increase further. However, GI protection alone is not sufficient to benefit from these economic effects of GI protection. Although protection is necessary, producers should produce the product according to specification provided in the GI registration and organize in a way to create value-added chain around GI protection. Otherwise, it is not possible for producers to take full advantage of economic gains.

3. OLIVE OIL PRODUCTION IN THE WORLD AND TÜRKİYE

Table 1 shows the trend of olive oil production in the world and leading countries over the years. It seems that the total olive oil production in the world has been increasing over the years; from 2.5 million tons in 2000 to 3.1 million tons in 2019. While the world olive oil production increased more than 25% during this period, Türkiye's production only increased by 10%. On the other hand the share of Türkiye in the world's olive oil production has decreased from 7% in 2000, to 6% in 2019.

In terms of the country distribution of olive oil production in the world, Spain is the leading country and has gradually strengthened her leadership in recent years. According to 2019 data (FAO, 2022), Spain's olive oil production was 1.13 million tons and this production constitutes approximately 36% of the total world production. As far as the other countries are concerned, olive oil production increased approximately 6 times in Portugal, 5 times in Morocco and 3 times in Algeria and Argentina during the 2000-2019 period. In this period, it can be said that production decreased in Italy and Greece, while the increase in production remained limited in Spain and Türkiye.

Table 1. Olive oil production in the world and leading countries (million tons): 2000-2019

	2000	2005	2010	2015	2016	2017	2018	2019
Spain	0.96	0.81	1.39	1.39	1.28	1.23	1.79	1.12
Italy	0.50	0.67	0.52	0.48	0.29	0.41	0.29	0.33
Greece	0.40	0.38	0.30	0.33	0.32	0.31	0.32	0.29
Tunisia	0.11	0.21	0.17	0.30	0.14	0.18	0.27	0.24
Türkiye	0.19	0.12	0.16	0.17	0.17	0.22	0.25	0.21
Morocco	0.04	0.05	0.14	0.13	0.13	0.13	0.17	0.20
Portugal	0.02	0.03	0.06	0.10	0.07	0.14	0.10	0.15
Algeria	0.03	0.03	0.04	0.07	0.07	0.06	0.08	0.09
Egypt	0.00	0.00	0.00	0.01	0.02	0.03	0.04	0.04
Argentina	0.01	0.02	0.01	0.03	0.02	0.04	0.02	0.03
World	2.54	2.54	3.18	3.40	3.43	3.14	3.68	3.10

Source: FAO, 2022.

Note: Countries are listed in descending order according to the production level in 2019.

In terms of regional level, the EU is the leading producer, consumer and exporter of olive oil in the world. The share of EU in world's olive oil production is approximately 67% while the share in world consumption is around 53%. Italy and Spain are the leading countries in the EU with an annual consumption of approximately 500 thousand tons each. Greece, on the other hand, has the highest per capita consumption in the EU with around 12 kg per year (EC, 2022b).

Table 2 provides data on foreign trade of olive oil for Türkiye. The amount of exports and imports increased in 2019 compared to 2000 so as the olive oil export and import values. However, there are great fluctuations in terms of export and import unit values over the years. For example, although the kg value of export increased in 2019 compared to that of 2000, but decreased by about 30% in 2019 compared to 2018. The import unit value also fluctuates greatly but decreasing for the last 2 years.

Table 2. Olive oil export and import value and quantity in Türkiye

	2000	2010	2015	2016	2017	2018	2019
Export (thousand tons)	14,676	18,341	12,831	17,819	50,216	65,960	53,927
Export value (mn \$)	29,125	64,232	60,030	69,625	200,422	239,689	143,187
Export unit value (litre/\$)	1,985	3,502	4,679	3,907	3,991	3,634	2,655
Import (thousand tons)	1,088	0,004	2,632	1,307	0,016	4,844	33,415
Import value (mn \$)	2,061	0,024	9,515	4,842	0,141	8,554	59,035
Import unit value (litre/\$)	1,894	6,000	3,615	3,705	8,813	1,766	1,767

Source: FAO, 2022.

Table 3 presents data on price comparisons of the leading olive oil producer countries; Spain, Italy and Greece. The prices of virgin olive oil in Italy are quite high compared to Spain and Greece. In

terms of natural premium olive oil and lampant oil, the prices of Spanish oils are higher than in the other countries. Greece's performance in terms of prices is worse than Spain and Italy.

Table 3. Olive Oil Prices in Leading EU Countries (Euro/100 kg-May 2022)

Country	Extra Virgin Olive Oil	Natural premium olive oil Natural	Lampant
Spain	340.0	326.5	318.1
Italy	430.3	310.8	269.0
Greece	338.6	316.3	258.8

Source: EC, 2022a.

4. GI AND THEIR ORGANIZATIONAL STRUCTURES: THE CASE OF SPAIN, ITALY AND TÜRKİYE

The EU has one of the regional offices around the world that accept applications and register GI valid throughout its members. It accepts applications from both members and non-member countries. As of 07.05.2022, there are a total of

3,459 GI registrations in the EU (EC, 2022c). Of the registered products, 1,623 wine products, 1,574 are foodstuffs and 256 are other alcoholic beverages. Of these registered products, 3,235 are from the EU member countries. The remaining registered products originate from non-EU countries, particularly the UK and China.

Of the registered GIs in the EU, 873 (approximately 25%) belong to Italy as of 07.05.2022. Of the total registered products from Italy, 313 are in the agricultural products and food category and 48 of them are in the liquid and solid oils (butter, margarine, oil, etc.) category (EC, 2022c). Spain has a total of 360 registered products in the EU (approximately 10.4%). Of these registered products, 200 are in the food category and 33 are in the category of liquid and solid oils as of 07.05.2023 (butter, margarine, oil, etc.) (EC, 2022c). On the other hand, applications and registrations of Türkiye in the EU is so low, that as of 21.01.2023 Türkiye has 42 applications and 8 registrations (EC, 2022c). Among the registered GI, 6 of them belong to fruit, vegetables and cereals fresh or processed, 1 to oils and fats (butter, margarine, oil, etc.) and 1 to bread, pastry, cakes, confectionery, biscuits and other baker's wares (EC, 2022c).

There are a total of 72 registered olive oils in the EU2. While only 7 of them are protected by PGI, the rest of them are all protected by PDO. Five of the products protected by PDO are from Italy and 2 of them are from Spain. Italy (27) Spain (18), France (8), Greece (7), Portugal (6) and Croatia (4) are among the countries with the highest number of protections, while Slovenia and Türkiye have only one olive oil registration each. Milas olive oil is the only olive oil in Türkiye registered by the EU and has been protected as PDO since 2020 (EC, 2022c).

The authority to grant GI registration in Türkiye belongs to the Turkish Patent and Trademark Office. As of 21.01.2023, the total number of registrations is 1313, while the number of applications is 686. Of the registered products, 72.7% are registered as PGI, 26.9% are registered as PDO and 0.4% as traditional product (TurkPatent, 2022). When the distribution of the institutions getting GI registration is considered, municipalities, followed by chambers of commerce and industry and commodity

exchanges are ranked among the top three. Unfortunately, the share of producer unions and cooperatives among the institutions who hold GI registration is very low. As far as the distribution of registered GIs by product groups is concerned, meals and soups have the highest share accounting almost 28%, followed by processed and unprocessed fruits and vegetables and mushrooms with the share of 21% and bakery and pastry products and desserts with almost 20% (TurkPatent, 2022).

There are 16 registered olive oils in Türkiye and five of them (the North Aegean, Nizip, Akhisar Domat, Akhisar Uslu, Kilis olive oils) are registered as PGI and all the remaining oils are registered as PDO. Registrations were mostly taken by the Commodity Exchange or Chambers of Commerce with the three exceptions. The registered owner of the Geyikli olive oil is the Geyikli Town Agricultural Development Cooperative, and the owners of the South Aegean and North Aegean Olive Oils are the Tariş Olive and Olive Oils Agricultural Sales Cooperatives Union.

This study aims to propose a road map in terms of production and organizational structure of Milas olive oil around EU' registered GI. In order to draw inferences from other best practices, Spain and Italy are chosen for the case study to make comparisons, it is because they are among the leading countries in terms of world olive oil production and the number of GI registrations issued by the EU, and also according to the 2022 World extra virgin olive oil competition, Italy is in the first place followed by Spain as the second. There are many GI registered olive oil in Italy and Spain, but Tuscany olive oil from Italy and Sierra De Segura from Spain are selected as case studies due to their high shares in olive oil production and the existence of a well-organized structure of the production in their respective countries. In order to make a comparison with Türkiye, South Aegean olive oils with GI (registered only in Türkiye but

²While searching the EU database, the translations of the words "olive and olive oil" in the original language of each country were used. However, as in Tuscany and Sierra de Segura olive oils, the word "olive and/or oil" is not included

in the names of some olive oil registrations, only the name of the area/region is mentioned. Therefore, this figure is considered to be higher.

not in EU) was selected. In this section, the organizational structures of Tuscany and Sierra de Segura and South Aegean olive oil are examined.

4.1. Organization structures of production of olive oils with registered GI: Examples from Italy-Tuscany and Spain-Sierra de Segura

Italy: Tuscany olive oils

Italy is one of the countries that obtain the highest economic return from GI protection. The calculated return from GI protected products for 2020 is worth 16.2 billion euro (\$17.5 billion) and the contribution of sectors such as wine, cheese, meat and olive oil are the highest (OOT, 2022). Contribution of olive oil with registered GI is increasing over the years. The market value of extra virgin olive oil with PDO and PGI increased by 21% amounting 144 million Euros (\$155 million) in 2020, and its exports increased by 11% amounting 62 million Euros (\$67 million) in 2020 compared to that of 2019 (OOT, 2022). The largest contribution to this increase came from the Tuscany and Puglia regions with contribution of 25 million Euros each (27 million \$) (OOT, 2022). Due to this importance of Tuscany in olive oil production and export, the Tuscany Region for Italy was chosen as a case study.

The history of olive cultivation in Tuscany goes back to ancient times. Olive cultivation in some settlements of Siena and Florence have a history of thousands of years going back to the 7th century BC. In the Medieval period, olive cultivation became widespread in the entire Tuscany Region, especially in Florence and Siena. With an edict issued by the Grand Duchy of Tuscany in 1716, the olive-growing qualifications of the region were officially accepted (Ambankara, 2018).

Although Tuscany extra-virgin olive oil was registered as PGI, it is among the most well-known GI products in the world and has been protected in the EU since 1998. The entire Tuscany Region is specified as the geographical area in the EU registration (EC, 2022c). Olives are harvested from the varieties and from the regions specified in the GI registration documents, and the

squeezing and pressing of the olives are performed in the same region. The olive oil, which has passed traceability, chemical and organoleptic tests in accordance with the production methods documented in the GI registration, is bottled in the same region has given the right to use the GI logo as “Tuscany olive oil” (Toscana PGI and the Consortium, 2022a). Each Tuscany olive oil bottle has a label on its neck with an alpha-numeric code, with which the entire supply chain (olive harvesting, olive squeezing and packaging of the olive oil) can be tracked. There is a search box on the website specially created for Tuscany olive oil, and when the label number is typed into this search box, along with the capacity of the bottle purchased (how many litres it is), the place of production of the purchased oil, as well as the people and companies that produce it, can be learned (Toscana PGI and the Consortium, 2022b).

There is a well-organized production structure around GI registered Tuscany olive oil. The Toscana PGI extra virgin olive oil Consortium was officially founded in 1997, by Tuscan olive growers. The consortium is managed by 18 board members and 3 supervisory board members (Toscana PGI and the Consortium, 2022c). In 2011, the Italian Ministry of Agricultural, Food and Forestry Policies conferred to the Consortium the tasks of protecting promoting and providing information to the consumers regarding Toscana PGI extra virgin olive oil (Toscana PGI and the Consortium, 2022d). The Consortium, which has around 9.000 members, carries out numerous activities for the promotion and enhancement of the Toscana PGI extra virgin olive oil brand, the designation of origin, and the oil product, both in Italy and abroad. It also carries out activities to protect Tuscany olive oil against counterfeiting and misuse, and to prevent the unlawful production or marketing of products using the name Toscana extra virgin olive oil, both in Italy and abroad. For this reason, supervisory agents, authorized by the Ministry of Agriculture ensure compliance with the law’s regulations by anyone who sells extra virgin olive oil. In case of any

potential infringements, civil, administrative or criminal laws are prosecuted

The consortium controls every step of the supply chain from harvest to packaging and protects each bottle with the GI logo. Oils are subjected to chemical and sensory analysis to check whether they comply with the GI regulation. Tasting test is made by a team of experts designated by the Ministry of Agricultural, Food and Forestry Policies (Toscano PGI and the Consortium, 2022e). In addition to these, there are other auditing organizations operating throughout the country. ICQRF (Department of Central Inspectorate for Fraud Repression and Quality Protection of Agro-food Products) is the law enforcement body of the Italian Ministry of Agricultural, Food and Forestry Policies which issue fines or other sanctions as a result of inspection or analyses findings for wine, olive oil and agrifood frauds (WIPO, 2017).

Toscano olive oils are among the most well-known and preferred olive oils in the world and make an economic contribution to the region in terms of production, foreign trade and employment. According to 2020/2021 data, Tuscany ranks 4th in Italy in terms of both oil production plants (9.3%) and oil production (7.4%) (ISMEA, 2021). Italy's consumer value of extra virgin olive oil with GI in 2019 was 134 million Euros. Compared to this added value of products with GI, the value of bulk products without GI registration is 82 million Euros and the export value is 56 million Euros. However, while certified oil production does not exceed 2-3% of the total in quantity, it reaches 6% in terms of value. Italy's GI certified olive oil production, which was 10.439 tons in 2010, reached 11.108 tons in 2019, and this amount appears to be very low considering the production potential of existing GI olive oils (ISMEA, 2021). In 2019, in the distribution of production (tons) of GI products by regions, Terra di Bari ranked first and

Toscana oil came second (ISMEA, 2021). Five products with GI (Terra di Bari, Tuscany, Val di Mazara, Sicilia and Ligure) account for more than 74% of all the national olive oil production with GI (ISMEA, 2021).

Table 4 presents trend of the prices of olive oils with GI in Italy over the years. According to the table, it is clear that the Brisighella olive oil is sold at a very high price, followed by the Garda, Chianti Classico, Riviera ligure and Toscano olive oils. The price change of Toscano olive oil between 2015 and 2020 is approximately 11.3%. The income from olive oil production in the Tuscany region for the period 2019-2020 is 2.730 Euros per hectare.

In addition to being an olive cultivation and olive oil producing centre, the Tuscany is a region that attracts significant tourists with its natural beauties and geography. Ferrari et al. (2018) state that tourism activities, especially hotels and restaurants, have strong ties with the regional economic system, but especially with the food sector. The study shows that tourism has positive contributions to food production, added value and household expenditures; and an increase in tourist expenditures leads to increase in demand and added value for agricultural and industrial products and contributes positively to the creation of job opportunities.

The fact that olive oil production in the region dates back to ancient times and that there is a cultural and social local life around olive oil also contributes to the development of tourism activities based on olives and olive oil. In Tuscany, tourism activities such as olive oil farm tours and cooking schools contribute to the development of other related tourism activities and olive oil consumption awareness³. In order to develop tourism, local organizations, municipalities and businesses work together.

³For more detailed information:

<https://www.visittuscany.com/en/theme/wine-and-olive-oil-roads/>, and <https://www.arttrav.com/tuscany/olive-oil-tours-in-tuscany/>.

Table 4. Prices of Olive Oils with GI in Italy (Euro/kg)

	2015	2016	2017	2018	2019	2020
Aprutino pescarese	6.35	5.99	7.37	6.72	6.87	6.72
Brisighella	20.21	18.74	23.70	22.54	22.00	22.00
Bruzio	7.30	7.05	7.47	7.65	7.74	7.27
Canino	9.00	9.07	9.61	8.30	7.33	7.04
Chianti classico	11.50	9.25	9.91	11.49	11.69	13.07
Colline teatine	6.34	5.95	7.04	6.80	6.91	6.73
Dauno	5.75	4.42	5.70	4.70	5.20	3.52
Garda	19.92	13.88	13.78	16.13	17.00	17.00
Lametia	8.08	7.89	7.99	8.02	7.98	7.67
Monte Etna	6.90	7.25	8.78	7.98	7.51	5.78
Monti Iblei	7.84	8.04	8.77	8.33	9.87	8.03
Riviera ligure	12.61	11.28	11.75	11.19	10.86	11.27
Terre di Bari	5.34	4.09	5.47	4.65	5.26	3.61
Umbria	8.75	8.78	9.34	9.99	8.51	8.25
Val di Mazzara	5.92	4.73	6.92	5.68	6.84	4.66
Valli trapanesi	5.92	4.58	6.77	5.47	6.83	4.64
Tuscany Igp	7.47	7.57	9.07	9.09	7.67	8.31
Sicilia Igp	-	-	-	5.45	6.67	4.69

Source: ISMEA, 2021.

Spain: Sierra De Segura olive oils

Another country that stands out in terms of olive oil production in the Mediterranean region is Spain. There are more than 350 million olive trees in Spain and 80% of Spanish olive oil is produced in the southern region, especially in the Andalusia. In this region, the Jaen area produces 45.5% of the region's olive oil and owns 25% of the olive oil production facilities (Coq-Huelva et al. 2014). There are three GI registered olive oil in the region. Sierra de Segura is one of them and covers 14 municipalities and almost 90% of the total cultivated area is dedicated to olive plantation (Coq-Huelva et al., 2014). A total of 24 olive oil production facilities operate in locations close to the harvest area. Due to the importance of the Sierra de Segura in olive oil production, this region was selected as a case study from Spain.

The production area of the Sierra de Segura olive oil is located in the Sierra de Segura mountains in the province of Jaén, located at the north-east of Andalusia. Sierra de Segura olives are found in regions with a slope of more than 15% and olive

oil has a unique flavour due to the low use of external inputs (Regulatory Council of the Sierra de Segura Denomination of Origin, 2022a). It has been protected by registration in Spain since 1993 and in the EU since 1996 (Regulatory Council of the Sierra de Segura Denomination of Origin, 2022b). The olive grove area of Sierra de Segura is approximately 33.900 hectares, and they belong to 7.864 farmers inscribed in the Regulatory Council. The average olive oil production in this area exceeds 18 thousand tons (Regulatory Council of the Sierra de Segura Denomination of Origin, 2022c).

There is a well-organized production structure around the GI registered Sierra de Segura extra virgin olive oil. There is a regulatory council responsible for identifying, safeguarding and guaranteeing the qualities of the oil. The regulatory council is independent, but affiliated to the Ministry of Agriculture and Fisheries of the Autonomous Government of Andalusia (Spain). The council issues the certification of the extra virgin olive oil which are produced in the area called Sierra de Segura and having the qualities

that comply with the specifications specified in the GI quality rules and guidelines (Regulatory Council of the Sierra de Segura Denomination of Origin, 2022d).

The regulatory council of the Sierra de Segura olive oil certifies the quality of the production of the members (21 olive oil production facilities and 27 trademarks). Samples are taken from the oil cellars by the regulatory council representatives and sent to the laboratories and their physical-chemical analyses are carried out. If the results obtained from the analyses of the samples comply with the criteria in the GI registration, the certification processes of these oils are carried out. With this quality certification process, the regulatory council guarantees the origin, quality and the absence of chemical products in the olive oil for all bottled olive oil batches with the label and gives permission to use the GI logo. Controls carried out by the regulatory council begin during the harvest and continue throughout the olive oil production process (Regulatory Council of the Sierra de Segura Denomination of Origin, 2022e).

Olive oils of Sierra de Segura are distributed in different formats. However, it is mandatory for the products to have a back label numbered specially made by “Real Fábrica de Moneda y Timbre” and showing that the products are protected with PDO. This ensures at the same time that the amount of olive oil packaged by the companies cannot exceed the amount of certified products they have (Regulatory Council of the Sierra de Segura Denomination of Origin, 2022d,e).

The Olivar de Segura cooperative, which was established in 1989, brings together more than 4,500 small farmer families in the region. The production of Olivar de Segura olive oil takes place through 12 olive oil production facilities. The cooperative provides a range of services needed for the commercialization of products provided by its members and for the coordinated and proper functioning of olive oil production

facilities and farmers. It also engages in different activities such as training activities, representation, technical assessment, quality management and cooperation with other organisations. Besides ensuring compliance of Sierra de Segura olive oils with the GI rules, Olivar de Segura has its own laboratory where all physical-chemical analyses are carried out. In addition, they comply with the strictest food safety rules applicable in Spain and the EU, while ensuring the traceability of the oil by performing all the controls specified in the quality manual (Regulatory Council of the Sierra de Segura Denomination of Origin, 2022f).

Spanish olive oil production is mostly carried out through cooperatives. There are 1.732 oil production facilities across Spain (OOA, 2010), of which 55% operate either as part of cooperatives or agricultural partnerships. While these facilities perform 70% of the oil production, the private sector, which owns 45% of the oil production facilities, provides only 30% of the production. While most of the olive oil production facilities in Sierra de Segura are owned by cooperatives, there are also privately owned and very active olive oil production facilities. Coq-Huelva et al. (2014) state that in Sierra de Segura, farms, companies and institutions that have network connections with each other have created a Local Food System by focusing on the production of quality olive oil ⁴.

The cost of producing a kg of olive oil in Jaén ranges from 1.7 to 4.0 Euros. The reference cost is 2.8 Euros (Parras et al., 2020, as cited in Parras et al., 2021); it is stated that the profitability is low due to the standard olive oil prices being around 2 Euros, and therefore the olive cultivation activities are abandoned and the olive groves are disposed of. However, products with GI registration are sold at a higher price. While the price of Italian Tuscany olive oil is 8.3 Euro/kg, the price of Spanish Sierra de Segura olive oil is 9.8 Euro/kg

⁴ In a study conducted for Sierra Magina olive oil protected with PDO in Andalusia, Spain, it was found that the collective organization and coordination of those who locally responsible for GI protection and quality assurance increased local competitiveness. GIs become quality assurance systems

for distributors through regulatory rules, while regulatory bodies responsible for GI coordinate activities between local actors, especially regarding the dissemination of innovations and knowledge that increase quality (Canada and Vazquez, 2005).

on average (Regulatory Council of the Sierra de Segura Denomination of Origin, 2022g). Therefore, GI registered products have higher profitability.

Located within the borders of Andalusia Jaén region, Sierra de Segura is in a mountainous area and stands out with its natural and forest beauties. There is a nearby area with a natural park in it. The region is famous for astro-tourism as well as for ecological and cultural tourism. At the same time, olive oil-based tourism is highly developed. The area has a museum with exhibits such as agricultural machinery and utensils used in olive tree cultivation and olive oil extraction. In the area of Jean there is “The Museum of the Culture of the Olive Tree”. The museum has oil mills, more than 30 varieties of olive trees from all the Mediterranean countries and cellars. In addition, fairs and tourism-based organizations are also held in the region⁵.

Türkiye: South Aegean olive oil

Aegean coast is one of the most important regions in terms of olive cultivation in Türkiye. In these regions, the Tariş Olive and Olive Oil Agricultural Sales Cooperatives Union operates 30 different olive and olive oil agricultural sales cooperatives. Tariş produces different varieties of olive oil and the number of varieties has reached 122 from past to present. It has an average annual market share of 22% in the country (IAOIZ, 2021).

In addition to its other productions, Tariş also produces South Aegean and North Aegean olive oils with GI registration (registered only in Türkiye). South Aegean Olive Oils are obtained from Memecik type olives grown in İzmir, Aydın and Muğla regions. The origin of the Memecik olive is Muğla. On the other hand, North Aegean Olive Oils are natural extra virgin olive oils

obtained from the Ayvalık olive variety, the origin of which is known to be Edremit. It grows only in the region surrounded by Kaz Mountains and Madra. While North Aegean olive oil is registered as PGI in 2018, South Aegean olive oil is registered as PDO in 2006. Since North Aegean oil registered only recently, South Aegean olive oil is chosen as a case study.

The registrant of the South Aegean olive oil is Tariş Olive and Olive Oil Agricultural Sales Cooperatives Union. The geographical area of place of production covers a very wide region in the south western part of Türkiye that is why the name is “South Aegean”⁶. In the certification of PDO, it is stated that no chemical processes are applied during the production of olive oil. Olive oils are grouped as natural olive oil and crude olive oil according to their characteristics. In the GI registration document, natural olive oil is defined as olive oil that can be consumed in its natural state, with a colour varying from clear yellow to green, containing the unique taste, smell and aroma of olives. Extra virgin olive oil, on the other hand, is defined as natural olive oil that can change from clear yellow to green in colour, contains the unique taste, smell, aroma and vitamins of olives, can be consumed in its natural form, has characteristics such as bitterness and burning, and does not contain any defects (TurkPatent, 2006).

The control of the production, processing, marketing and the use of the label is carried out by the “Higher Inspection Board” appointed by the Tariş Olive and Olive Oil Agriculture Sales Cooperatives Union and the “Technical Sub-Inspection Board” (consists of producer organizations and independent public institutions in the provinces and districts within the covered geographical area of GI registration). Producers complying with the GI rules use holograms and

⁵See for tourism activities: <https://www.aceiteolivaonline.com/blog/en/oleotourism-around-jaen/>, and <https://www.molinodecasilda.com/en/olive-oil-tourism/>

⁶including İzmir/Foça, Menemen, Kemalpaşa, Ödemiş, Tire, Torbalı, Bayındır, Selçuk, Aydın/Kuşadası,

Ortaklar, Germencik, Erbeyli, İncirliova, Köşk, Nazilli, Kuyucak, Atça, Sultanhisar, Buharkent, Yenipazar, Koçarlı, Söke, Dalama, Çine, Bozdoğan, Muğla/Milas, Yatağan, Bodrum, Fethiye, Ortaca, Köyceğiz, Marmaris and Dalaman.

the South Aegean olive oils logo on their bottles as well as their own brands.

Table 5 gives the prices of olive oils produced by Tariş. The prices of the oils called “special extra virgin” are quite high. These oils are specially produced in the districts included in the GI certification. There are separate productions for each district and these oils are sold at a higher price than other oils.

Geographical coverage of PDO registered South Aegean olive oils is very wide including İzmir, Aydın and Muğla. These three provinces are currently the leading provinces in the Aegean

region as tourism destinations. Beside this there are tourism activities for olive oil except that they are local. For example, “Olive Harvest Festival” is held in Milas every year and provides economic returns to the region. The “Oleatrium Olive and Olive Oil History Museum” was established in Kuşadası, a district of Aydın, and the story of how olives turned into olive oil from ancient times to the present day is told in the museum (Oleatrium, 2022). The “Köstem Olive Oil Museum” established in İzmir Urla also contributes to olive oil tourism. Köstem Olive Oil Museum aims to become the world’s largest olive oil museum complex.

Table 5. Prices of Olive Oil Varieties Produced by Tariş

Olive oil variety	Price (Lt/TL)
Riviera	75
Extra virgin olive oil	80
South Aegean Olive Oils Extra Virgin (İzmir, Aydın and Muğla mixed)	80
South Aegean Olive Oils special extra virgin (Speical production for districts-GI logo)	145

Source: Ta-Ze, 2022.

Note: The above information has been compiled from Tariş’s corporate sales platform.

Table 6 compares and contrasts three olive oils examined in this section in terms of several features. As can be seen from the table, South Egean Olive oil is lagging far behind in different aspects compared Toscano and Sierre de Segura

olive oils. In terms of linking history to olive oils, registration in the EU, traceability, governance, leading to international tourism activities, controls and tests and price premium, there is a lot of work to be done and a lot of effort to be made in these respects.

Table 6. Comparisons of Olive Oils

Features	Toscano	Sierre de Segura	South Egean
Historical Link	+	+	-
Registration in EU	+	+	-
Traceability	+	+	-
Governance	+	+	-
Web page	+	+	+
International Tourism activities	+	+	-
Controls and test	+	+	-
Price premium	+	+	-

5. MİLAS OLIVE OIL

5.1. Current figures

According to the 2019-2020 report of the National Olive and Olive Oil Council of Türkiye, approximately 10.3% of the fruit-bearing olive

trees in Türkiye are located in Muğla. While the share of Muğla in table olives is 4.4%, its share in olive oil production is 11.6%. In Milas, one of the districts of Muğla, agriculture is the leading source of livelihood, and olive cultivation is one of the the prominent agricultural activities. In Milas, the

district with the most olive trees in Muğla, 52.900 hectares of 81.189 hectares of agricultural land are covered with olive trees. There are approximately 7.785.000 fruit bearing trees and 37.490 non-fruit bearing trees. It is also estimated that there are approximately 1 million unregistered olive trees in Milas (Kaya et al., 2014). After the imposition of quota on tobacco production, interest in olives has increased in Milas and Gemlik type olive trees were planted for table and pickled olives. When all these data are considered, it can be inferred that there are even more olive trees in Milas than officially documented. Although the most olive trees in Milas and its vicinity are in Bafa and its surroundings, olive cultivation is an important source of income in a total of 114 villages⁷.

There are 93 olive oil factories in the centre, towns and villages of Milas and in 33 of them old systems are used and in 60 of them, new systems are used. Only 31 of them have a food safety registry and a work permit (MDG, 2022). While the olive processing capacity in the region is 400 thousand tons, the amount of oil that can be obtained potentially is approximately 80 thousand tons (Kaya et al., 2014).

Milas olive oil is the first Turkish olive oil registered by the EU. After being registered in Türkiye in 2016, the application by the Milas Chamber of Commerce and Industry was made to the EU in 2017 and it was protected as PDO since 2020 by the EU. Milas olive oil is extra virgin olive oil and produced exclusively from “Memecik” variety olives grown in Milas. The olive oil is produced with mechanical processes only and processing must be undertaken within the defined geographical area. Milas’ unique climate, soil conditions and the mountainous masses and slopes creates a suitable environment for olive farming without any need for irrigation (EU, 2022). The label must include the name of the designation “Milas Zeytinyağı”, EU PDO logo, Milas Olive Oil logo, official hologram which

shows the authenticity of the product and trade name and address or short name and address of the manufacturer or registered trademark.

Controls as to whether the production of Milas Olive Oil is carried out in accordance with the characteristics described in the production method are undertaken under the coordination of Milas Chamber of Commerce and Industry. Audits are carried out regularly once a year or when needed/in case of complaints for all phases of the process, including production, marketing and sales, by a commission of 3 people, consisting of 1 expert from Milas Olive and Olive Oil Agricultural Sales Cooperative, 1 expert from Milas District Food and Agriculture and Livestock Directorate and 1 expert from Milas Municipal Police Department and the results are reported.

In this section, the report which has been written by Climate Action Network (CAN) Europe, 350 for Climate Association and Milas City Council, and titled as ‘A Transition Opportunity for the Local Economy: The Olive Sector in Milas/Muğla/Türkiye’ was used for the up-to-date data and general information about olive oil production in Milas.⁸ According to the secondary data obtained from this report olive oil production in Milas was approximately 20 thousand tons for 2020. On the other hand, the production in accordance with the registered PDO was approximately 100 tons, which means that only 0.5% of the total olive oil production was produced in compliance with GI registered standards. While 80 tons of GI registered olive oils were exported, a large part (about 60%) of this export was made to Arabic countries and Malaysia. Nearly 30% of the exports were made as organic olive oil, of which the average price was 200 TL/lt in 2021.

After the GI registration of Milas olive oil by the EU, significant increases have been experienced in the trademark registrations of olive oil to

⁷From the trees in Milas, 95 thousand tons of olives are cultivated in a productive year and 10 thousand tons of olives are cultivated in an unproductive year and 10% of the olive is reserved for table, 90% for olive oil (milas.gov.tr). The Memecik olive, which corresponds to 95% of the total production in the region, produces an average of 20-25 kg of

olives from a tree and 1 lt of olive oil is obtained from 5 kg of olives on average in a productive year (Kaya et al., 2014).

⁸See for the summary of the report: chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://caneurope.org/content/uploads/2022/04/The-Olive-sector-in-Milas-Report-Eng-Sum.pdf

Turkish Patent and Trademark Office. The number of olive oil brands, which was about 30 before the GI registration, increased to 80 in the summer of 2021 (Can Europe, 2022). On the other hand, although the number of companies that sell their products using the GI logo has increased, they only reached to 19. Ten of them have their own integrated (including bottling/packaging) facilities. After the GI registration, the sales volume, market share, demand, exports and prices of olive oils has increased (CAN Europe, 2022).

The collection and transportation of olives grown in the region, and the time between harvesting and squeezing directly affect the quality and especially the acidity of the olive oil produced. This situation is of great importance for olive oil production that meets the GI registration criteria. The squeezing of olives collected and transported under suitable conditions, especially in modern facilities, increases the compliance of olive oil with GI registration criteria. If these processes are done as required and properly, many producers can obtain the GI registration certificate and can use EU logo. The number of GI banderols purchased by companies from the Milas Chamber of Commerce and Industry (MITSO) is around 100 thousand from the beginning of 2020 until the summer of 2021. The price of a GI banderol is very low to promote to use of logo. Banderols are given per package, not per kg. Almost 50% of them were bought by only one company in 2020. Companies who use GI logo have to comply additional criterias such as hygiene, storage systems and cold pressing machines. Controls are carried out to determine whether olive oils comply with the conditions specified in the GI registration certificate. Samples taken for inspections are sent to nearby city, Aydın, which has an international accredited laboratory. In order to use the logo, inspections are required and companies bear the cost of analysis, which is between 2.000-2.500 TL.

5.2. Potential economic returns of Milas olive oil

When the renowned and EU' GI registered olive oils such as Tuscany and Sierra de Segura are

considered, it can be stated that they have gained reputation and recognition and has higher value added compared to their standard products. On the contrary interviews with the key actors in Milas revealed that Milas olive oil, has not reached that point yet. However, there is a potential of Milas olive oil to create economic value compared to its equivalents. The average sales price of GI registered Tuscany olive oil in Italy was 8.60 Euro/kg in 2022 (for April) (ISMEA, 2021). Thus, it can be calculated that the litre price of Tuscany olive oil (1lt=918gr) is approximately 7.9 Euro and 140.6 TL/lt in local currency (1€≈17.8TL). Average sales price of Milas GI registered olive oil varies between 75 and 100 TL/lt for early harvest virgin olive oil (MCCI, 2022). Although both olive oils are GI registered by the EU, the price difference between them is quite high. Tuscany olive oil can find buyers at an average of 63% higher price than Milas olive oil.

While the total olive oil production in Italy for 2019 was 273 thousand tons, the amount of GI registered production is 11.1 thousand tons. Therefore, the share of GI registered olive oil production in total production is approximately 4% (ISMEA, 2021). There is an average of 20 thousand tons of olive oil production in Milas in a productive year. From the in-depth interviews conducted, it is understood that approximately 100 tons of this production comply with GI standards thus amounting the share of 0.5% of total production. Although, at first, this seems a weakness, it can be converted into a strength aspect of production. If the share of olive oil which comply with the GI registration standards are to increased, economic potentials can be gained. In-depth interviews and field survey suggest that there is an infrastructure in the region where production can be made in accordance with GI registration standards. Therefore, increasing the amount of olive oil production complying with EU registered GI standards not only will lead to increase prices but also improve trade thus directly benefiting to producers.

There are big differences between Türkiye and international markets in terms of basic market dynamics such as production and price. There are

many factors behind these differences. Among these factors, the organizational structure of production around GI registration, the effective use of advertising and marketing channels and network of local producers and local institutions (such as chambers of commerce, cooperatives) are the most important ones. It is possible to generate higher economic gains from the Milas olive oil by establishing and consistently applying the necessary policies in areas such as organizational structure of production, advertising and marketing. The economic contribution of the olive oil sector will increase exponentially, if the price of Milas olive oil is to reach international levels and if the share of olive oil production complying with the registration specifications is to be increased.

Table 7 presents potential income gains from Milas olive oil. The current annual production of olive oil complying GI specifications is about 100 tons and its price varies between 75 and 100 TL. If the share of olive oil which comply with GI specifications increased to 4% of total olive oil production, as in Italy for example, reaching to 800 tons and if the price rises to 140 TL on average as in Tuscany olive oil, total income can be estimated. Accordingly, while the current total income is around 8.7 million TL, the estimated income would rise to 112 million TL. This estimation suggests that there is a great income potential if only international price and production levels could be reached.

Table 7. Potential Income Gains from Milas Olive Oil

	Current Figures	Estimated Figures
Olive oil production complying GI specifications	100 ton	800 ton
Average price	87.5 TL/Lt	140 TL/Lt
Total income	8.75 million TL	112 million TL

This income increase will have direct and indirect contributions to the regional economy. Due to the increase in production and price, there will be an increase in the incomes of olive oil producers and olive farmers. In addition, with the increase in olive oil production and the amount of olives purchased from farmers, it will be possible to increase employment opportunities in areas such as olive harvesting and maintenance. The increase in the incomes of olive oil producers, olive farmers and employment will increase the overall expenditure level in the economy of the region. The increase in the total expenditure level will contribute to the economy more than itself through the multiplier effect.

6. CONCLUSION

While GI gives a product recognition and cause product differentiation in the market, it may lead the product to be sold at a higher price. However

not every registered product is sold at higher prices, there are several conditions to do so. First of all, a product must be produced in accordance with the specifications as stated in the registration and comply the rules of production; in addition, the production or production process should be controlled on a regular basis. Control and governance are the essential parts in order to benefit from geographical indications (Kan et. al, 2020). However, all these requires some organizational structure around production such as the supervisory board, technical staff and laboratories.. Controls of quality and several tests to be conducted are the essential parts of the process. All the actors involved in the production process (olive producers, olive oil producers, bottling plants, distributors) can conduct an internal audit but it is very important to have an independent external audit, especially during oil production, for maintaining the quality of the oil.

Second, for a better marketing strategy, all the production process, from harvesting of olives, obtaining olive oil and to bottling (including controls, tests, how the production is done in accordance with the rules, etc.) must also be conveyed to the consumer. With the development of new technologies, the consumer should easily access to this information either from barcode or from any other technology. Only in such a case consumer will know that he/she has bought an original, authentic product, and pay a higher price. In many parts of the world, there are companies that imitate GI products and want to benefit from the reputation of that product. In order to prevent such deceptions and to protect against counterfeit products in the market, it has become almost mandatory to use special labels during the packaging and distribution of the GI product, which allows it to be distinguished from its counterparts in the market. Special labels are used increasingly in international markets, as is the case with Italian Tuscany olive oil and Spain Sierra de Segurra olive oil, and consumers are informed that they actually consume GI products.

The stages of olive oil production with GI, such as inspection of every stage from harvest to the delivery to the customer, doing special controls and tests, bottling, packaging, labelling and distribution require significant organizational skills. This process cannot be handled by single olive producer. The case studies of Tuscany and Sierra de Segura olive oils and Southern Aegean olive oils shows that all the production processes are carried out through consortiums/cooperatives. These consortiums/cooperatives manage processes from harvesting to bottling and labelling in effort to make the production process is in accordance with the specified rules and traceable in the market.

The institutions involved in the Italian Tuscany and Spanish Sierra de Segura seem to eliminate the commercial intermediaries between producers and consumers, thus preventing loss of income for producers. This means that the whole income reaches directly to olive/olive oil producers and allows the producers to earn higher income. On the other hand, the increase in the income of olive

producers supports the economic activities in that region and contributes to the economy of the region with the multiplier effect which benefits rural development. As a result, the employment opportunities in the region are protected and/or increased, which is important in terms of preventing migration from rural to city. At the same time, the protection of what is traditional and local in olive production is ensured because olive cultivation also constitutes an important part of natural heritage and socio-cultural life in many regions.

Both olive oils examined from Italy and Spain are very well known, recognized and are also subject to international trade. Therefore, these products not only provide export income, but also contribute to tourism activities by making the region more known. In both regions, national and international tourism activities are carried out under the name of “Olive Oil Tourism” and “Olive Oil Route”. Such tourism activities contribute to the economic development of the region not only in terms of the production of olives and olive oil, but also in other fields of agricultural products, hotel management, restaurant and transportation (IOO, 2022).

In this study, South Aegean Olive Oils and Milas Olive Oil from Türkiye were examined to compare international counterparts. Except special labels and logos developed for both products, it seems that there is not such well-organized production structure around registered GI. The problem begins with olive and olive oil producers. They seem to lack of understanding of the importance of and the value of GI. In particular, producers are not fully aware of the potential that GI can provide to them in national and international markets. Another problem with the producers is that their unwillingness to organize as cooperatives which in turn effect their potential benefits from “Milas Olive Oil”.

In addition, the lack of marketing strategy both at national and international level obstruct economic potentials that otherwise can be obtained. With a good marketing strategy Milas olive oil can gain a worldwide reputation and create export income as in the case of Toscano olive oil and Sierra de

Segura olive oil. This reputation not only creates export income but also have the potential to attract more tourists to the region. Milas has 27 ancient cities within its borders, along with Hecatommus Mausoleum and Sanctuary (2012) and Medieval City of Beçin (2012) both of which are on the UNESCO World Heritage tentative list (MPDCT, 2022), and Çomakdağ Kızılağaç with its five-hundred-year-old cultural values and lifestyles still alive in the neighbourhood, along with its 120 km long coastline and bays, has the potential to use the opportunity for tourism activities around olives and olive oil (Özçatalbaş et al, 2019).

Milas Olive Oil, EU GI registered olive, can be a key element for regional development only if producers can create a production structure around cooperative and create a value-chain with an international marketing strategy.

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