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SCIENTIFIC PAPER

FACTORS INFLUENCING ALBANIAN CONSUMER PREFERENCES FOR STANDARDIZED OLIVE OIL

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Abstract: *Albania is considered one of the most important countries where olives are cultivated due to its geographical position and climate conditions. The country is facing many problems with the quality of olive oil which is related to cultivation methods and agronomic techniques. The economic value of the sector is calculated almost €20 million per year. For years the cultivation of olives and associated products have been considered an important sector within agriculture and are an integral part of the Albanian diet.*
The current study aims to analyze the factors influencing consumer preferences for a standardized olive oil. The data collection was conducted through a socio-economic survey. The survey was an important element which provided general and specific information linked to the study area. The interviewees were selected randomly. Descriptive and multinomial logistic regression analyses were used to evaluate the survey data. As a result, we conclude that Albanian consumers prefer domestic olive oil because they are familiar with the taste and believe in its qualities. Usually, Albanian consumers choose the quality of olive oil at the purchase moment, due to their close relationship with the seller.

Keywords: *consumer preferences, olive oil, standardization, Albanian consumer, quality*. (JEL CODE: D12)

INTRODUCTION

During centuries, olive has played an important role in the development of rural communities, as a consistent source of income and employment in the Mediterranean countries. Albania has the lowest rate of olive oil production in the Mediterranean and only in recent years are efforts being made to increase the amount produced. Annual production is around 98,000 tons of olives and approximately 13,800 tons of olive oil (INSTAT, 2015). The olive oil produced is used mainly for domestic consumption. Despite the increase in the production of olive oil, imports have continued to grow, reaching 10,600 tons in 2014, marking an increase of 85% compared to 2007, while exports are very low and sporadic. The quantity exported is decreasing from 20 tons in 2009 to 10 in 2014 (MARDWA, 2015).

Olive groves consist of approximately 8,994,000 olive trees, from which 5,803,000 are in production and are distributed throughout 118,000 in small farms (INSTAT, 2015). Olive groves occupy nearly 5.9% of arable land in Albania (MARDWA, 2015). The economic value of the sector is calculated almost €20 million per year. For years the cultivation of olives and associated products have been considered an important sector within agriculture and are an integral part of the Albanian diet. The annual consumption rate in Albania is 0.6 kg per head (FAOSTAT, 2015). Also, in many Mediterranean countries the cultivation of olives is the main economic activity and forms the basis for many other sectors (Beaufoy, 2002). The world production of olive oil is concentrated in the Mediterranean countries. (Turkekul 2010).

The quality of olive oil in Albania is subject to many issues related to the methods of olive cultivation, the agronomic techniques that follow, along with processing and storage in production phases, all of which directly affect the quality of the oil. Low quality production is derived from two main elements: i) Olive cultivation and harvesting, ii) Product processing and promotion. The transition period has negatively impacted either olive cultivation and growth or oil production through compliance with European standards. The objectives of this study are to:

Detect the factors influencing consumer preference towards standardized olive oil.

Find a possible correlation among consumer preferences and olive oil quality certifications

MATERIAL AND APPROACH

The aim of the survey was to obtain information and analyze the main factors influencing Albanian consumer preferences in the purchase of olive oil. It is difficult to identify the factors that motivate consumer preferences and olive oil purchase (Delgado and Guinard, 2011). It has been found that consumers try to evaluate product quality attributes before purchasing (Nelson, 1970; 1974). Trognon et al. (1999) agree that consumer behavior regarding in determining quality is influenced by socio-demographic, perceptive, knowledge and attitude factors. Also, Del Giudice, (2015) concludes that olive origin is a key element in individual consumer choices

Several authors have proposed different classification methods to estimate consumer preferences and attributes relating to olive oil; these include Conjoint Analysis and Random Utility Models (RUM), both of which are the most widely used (Del Giudice et al., 2015). Similar studies in Albania (Chan-Halbrendt et al., 2010; Mane-Kapaj et al., 2010; Imami et al., 2013) evaluate consumer preferences according to price, olive oil type, origin, taste, purchase location, label, and seller or producer information. Following similar analysis relating to consumer preferences in Albania and other countries, we will measure consumer behavior attitudes in terms of education level, origin of olive oil and food safety.

The surveys were conducted in Tirana and Vlora, considering that:

1. The largest part of the Albanian population lives in these regions;
2. They boast the main proportion of oil production in the country;
3. The highest level of olive oil consumption has been observed in these districts.

The data employed to analyze factors influencing consumers' purchase of olive oil were obtained through a marketing survey approach. The instrument used to collect the primary data was a questionnaire. We interviewed 700 respondents through a closed questionnaire. Only 643 questionnaires were correctly completed which retained for analysis.

All respondents were selected randomly. Random sampling is the best single way to obtain a representative sample. That said, no technique guarantees a representative sample, although the probability is higher with this method than any other (Henry, 1990).

The questionnaire was divided into three parts as follows:

1. Questions on demographic information, including characteristics such as age, gender, education, family members, dwelling place and income.
2. Questions about the factors that influence consumer choices, such as olive oil origin, mode of olive oil consumption (cooking, or dressing), purchase location, and olive oil quality.
3. Questions regarding food safety, such as standards identification, seller loyalty, and information about manufacturing.

Data elaboration was conducted using the statistical software, Statistical Package for Social Sciences (SPSS) ver. 17, which aimed to model and achieve a direct analysis of consumer preferences regarding olive oil standards. This study intends to define the meaning of variables used to define the following: "A variable is something that can take more than one value, and those *values can be words or numbers*" (Bernard, 2011). A descriptive and multinomial logistic regression analysis is used to evaluate the survey data. This model is a flexible method of data analysis that allows us to examine the dependent variable which is the categorical variable (discrete not continuous) with more than two possible values (Hosmer and Lemeshow, 2000).

Quality is evaluated as the dependant variable which is divided into three categories according to customer estimations.

Following the data analysis, some of the independent variables are considered to be important and others are not. Logit multinomial regression is as follows:

$$\ln(pA/pC)=\beta ao + \beta a_1x_1 + \beta a_2x_2 + \beta a_3x_3 + \beta a_4x_4$$

$$\ln(pB^{(1)}/pC)=\beta bo + \beta b_1x_1 + \beta b_2x_2 + \beta b_3x_3 + \beta b_4x_4$$

Table 1. Variables description

Education (years)	(%)	Origin of olive oil	(%)	Food safety	(%)
High school	40	Imported	17	According to standards	23
Elementary	45	Domestic	68	Loyalty to seller	49
University	15	Both markets	16	Loyalty to producer	29

Source: Authors' estimation

Information that fits the model is based on the output derived from the SPSS calculations of the survey participant database. The likelihood ratio chi-square result was 48.23, compared with a p-value < 0.0001. Thus numbers tell us that our model fits significantly as a whole.

There are various pseudo R-squares that in statistics can be used to measure the strength of the connections between dependent and independent variables, for this model those used are Cox and Snell, Nagelkere, and McFaden. Cox and Snell is 0.215, Nagelkere is 0.258, while McFaden is 0.198. Pseudo R-squares should be accepted as a group because this paper's model contains more than one independent variable (Robin P. 2014)

In the same line of calculation by SPSS for this model we have results for parameter estimates on coefficients B, Stand. Error, Wald test, Sig. (2-tailed), Exp.(B), and a Confidence interval for Exp.(B).

RESULTS AND DISCUSSION

We focus on the impact of quality standards on Albanian consumer preferences. Therefore, this analysis aims to verify

Table 2. Model parameter estimations

Quality	B	Std. Error	Wald	df	Sig.	Exp(B)
Quality II	2.536	.317	16.586	1	.004	
Educations (Elementary) =1	.896	.365	2.867	1	.020	1.627
Educations (High school) =2	.468	.266	2.641	1	.022	.836
Educations (University) =3	.325	.107	2.251	1	.018	.725
Origin of olive (Domes.) = 1	1.895	.637	5.219	1	.016	2.368
Origin of olive (Imported)=2	.607	.219	2.137	1	.012	.994
Origin of olive (Both) =3	.345	.116	3.615	1	.009	1.085
Food safety (Standards)=1	.267	.108	2.329	1	.024	.932
Food safety (loyalty to producer) =2	.895	.340	1.364	1	.073	.976
Food safety (loyalty to seller) =3	2.146	.452	12.657	1	.009	3.963
Quality III	1.918	.382	22.994	1	.000	
Educations (Elementary) =1	.562	.321	6.157	1	.003	1.362
Educations (High school) =2	.375	.279	2.082	1	.037	.883
Educations (University) =3	.249	.103	1.926	1	.023	.654
Origin of olive (Domes.) = 1	1.297	.363	5.310	1	.021	1.906
Origin of olive (Imported)=2	.782	.267	2.427	1	.016	1.137
Origin of olive (Both) =3	.456	.168	3.618	1	.006	.936
Food safety (Standards)=1	.243	.113	3.367	1	.036	.794
Food safety (loyalty to producer) =2	.738	.326	4.255	1	.002	1.371
Food safety (loyalty to seller) =3	1.235	.368	9.234	1	.003	2.873

Reference category is: Quality I.

whether local consumers are aware of the importance of standards. According to the questionnaire, consumers are not influenced by the price of the product. The analysis does not show any correlation between oil prices and consumer preference. For this reason, the price was not considered to be an important variable in our evaluation. Following consumer preference analysis, we evaluate just the color as a sensory characteristic. Those interviewed were asked to express their opinion on olive oil color (yellow or green). In the past, the taste and color were considered to be two of the attributes that most influenced consumer perception and purchase choice, without, however, identifying them individually as being present (Guidice et al., 2015). The Albanian consumer perception of olive oil color is relegated to second place compared with other indicators taken into consideration. But, according to our estimations the most preferred color is green, with the following reasons identified:

1. The color of olives are green and so the olive oil should be green.
2. The quality of olive oil is higher.
3. Level of acidity is lower.
4. Green color shows that olive oil is not mixed with other vegetal oils.
5. The origin of olive oil is from the south of Albania and is not imported.

According to the results, the explanatory variables that have an important influence in consumer behavior were identified as the education levels of the customer, origin of olive oil, and food safety of olive oil according to its quality.

The output was divided into two parts, labeled with the categories of outcome variable quality.

As can be seen from the data output above (Table 2), all the parameters for the first model (Quality II) are significant (sig. $<$ 0.05). We can argue a little for Food safety (loyalty to producer) =2 (sig. 0.073), but even for this parameter we can conclude that it is significant for 92.7% security. While for the second model (Quality III), we can see that all the parameters are significant (sig. $<$ 0.05).

The relative log odds of quality of olive oil being ranked first or second will increase by 0.896 when moving from the highest level of education (education = 3) to the lowest (education = 1).

Table 3. Predicted probability for outcomes of consumer behavior on quality of olive oil on education level 1, 2, 3.

	Quality of olive oil (II)	Quality of olive oil (III)	Quality of olive oil (I)
Education =1	0.5146211	0.3027945	0.1825844
Education =2	0.4678695	0.3157824	0.2163481
Education =3	0.3264872	0.2658677	0.4076451

Source: Authors' estimation

The relative log odds of quality being ranked third versus first quality will increase by 0.562 when moving from the highest level of education (education = 3) to the lowest (education = 1)

The relative log odds of quality being ranked second versus first quality will increase by 1.895 when moving from non-identified origin (origin = 3) to domestic origin (origin = 1)

Table 4. Predicted probability for outcomes of costumer behavior on quality of olive oil and origin of olive oil.

	Quality of olive oil (II)	Quality of olive oil (III)	Quality of olive oil (I)
Both origins	0,50462	0,18434	0,31104
Imported origin	0,32782	0,19547	0,47671
Domestic origin	0,58612	0,29346	0,12042

Source: Authors' estimation

The relative log odds of quality scoring in third place versus first will increase by 1.297 when moving from non-identified origin (origin = 3) to domestic (origin = 1). The relative log odds of quality being ranked second versus first will increase by 2.146 if moving from the highest level of food safety (safety = 1) to the lowest (safety= 3)

Table 5. Predicted probability for outcomes of costumer behavior on quality of olive oil in food safety

	Quality of olive oil (II)	Quality of olive oil (III)	Quality of olive oil (I)
According to quality certifications (HACCP, ISO)	0,268723	0,188912	0,542365
Loyalty to seller	0,584153	0,233457	0,18239
Loyalty to producer	0,563424	0,235872	0,200704

Source: Authors' estimation

The relative log odds of quality being scored third versus first will increase by 1.235 when moving from the highest level of food safety (safety = 1) to the lowest (safety= 3).

We estimate coefficients that "capture differences between all possible pairs of groups. Or we can apply a model that incorporates the ordinal nature of the dependent variable" (Norušis, 2008). So, we can certify that the model estimated in this paper is statistically significant (Mittlbock and Schemper, 1996; Agresti, A. 1996; Long and Scott, 1997; Menard, 2000).

Table 6. Predicted probability for outcomes of loyalty to direct seller, loyalty to producer standards (HACCP/PDO/PDI etc.) on marketplace level 1, 2, 3, 4.

	Loyalty to direct seller	Loyalty to producer	Standards (HACCP/PDI/ PDO)
Marketplace =1	0.7957489	0.1298675	0.0743836
Marketplace =2	0.0656879	0.7895647	0.1447474
Marketplace =3	0.0435769	0.2627584	0.6936647

Source: Authors' estimation

As can be observed from the table above, Albanians buy olive oil based on family tradition and information passed from generation to generation over time. These preferences can be listed, starting from education level followed by the market place and home city.

The Albanian consumer is very attached to the seller which translates into certainty about the quality of olive oil. Even when the price is low or high (depending on season), consumers buy it because they trust the seller. Furthermore, if this relationship is long-term, consumers benefit from discounts. In cases where consumers choose to buy the product directly from the producer the price charged is at average level.

Customer interaction with the seller or the oil production facility is very important since part of the population has moved from rural to urban areas, although consumers continue to maintain direct relationships with the village. They usually buy olive oil from their acquaintances or use olives inherited themselves to produce their own olive oil. However, they do not have the information or adequate knowledge to produce quality olive oil.

Furthermore, this trend has begun to be embraced by the urban population who have no connection with rural areas. Some consumers have established trusted links with oil-producing facilities or traders during their holidays (especially those holidaying in Himara, Qeparo, etc.). Another section of the population prefers to go directly to the mills/producing facilities in villages near towns, where the olive oil is packaged in plastic bottles. This fact confirms that Albanian consumers have little knowledge on quality of olive oil.

Such product selection behaviors are fanatically followed by Albanian consumers, as they trust in the direct relationship with the manufacturer or maintain loyalty to selected products in any of the organized retail market forms (supermarket or convenience stores). Therefore, customers do not take into consideration the necessary indicators created by standardization aiming at the consumption of a healthy product. Concluding, it can be said that Albanian consumers choose the quality of olive oil at the moment of purchase. Generally, this cohort establishes close relationships with the seller.

The Albanian olive oil market does not offer high quality since the quality as required by its consumers is also low. This

is due to the lack of information regarding the product's high quality features and also as a result of the price which reflects quality. However, consumers, according to Réquillart (2007), in the absence of a quality certificate cannot understand the quality of the product they buy, hence the «average» level of quality.

CONCLUSIONS

Albanian consumers generally create trust relationships with the supplier because they lack other information for olive oil quality at the purchase moment. Consumers prefer domestic olive oil because they are familiar with the taste and believe in its qualities. This belief is based only on customer perceptions and does not reveal the real quality of the olive oil. Thus, Albanian consumers have the wrong perception about olive oil quality.

High price and low income cause elasticity of demand in non-traditional areas of olive oil consumption. In non-traditional olive oil production areas (mainly north-east of the country), many consumers consider olive oil as a non-essential product, therefore the demand has a tendency to be more flexible than in traditional production regions. In traditional areas, increases of prices (up to a certain level) causes only small temporary decrease of consumption, while in non-traditional areas increases of prices may cause the substitution of olive oil with other types of oils (olive oil may be substituted with other types of vegetable oils).

European quality standards (HACCP, ISO) are unlikely to be followed by consumers. The Albanian olive oil market is not of high quality in terms of domestic producers because the quality demanded by customers is low. This is as a result of the lack of information offered regarding the product's high quality features and the price which goes along with quality. So, the goal should be to communicate to consumers the manner of cultivation and production of secure olive oil (Guerrero, 2012). Local consumers should be informed about the quality standards of olive oil because consumption of bad quality oil can have severe consequences on human health.

The main objective at this stage should be to inform consumers about the origin of olive and characteristics of the area where olives were cultivated. Certification of autochthon varieties, in the future, will be a significant opportunity not only for export purposes, but also for enhancing the reputation of Albanian olive oil.

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