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Whose salad is organic? An attribute segmentation perspective-evidence from Albania

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Abstract

Organic agriculture remains a black box attribute when considering consumer behaviour and preferences in developing countries. This is due partially to a lack of awareness about such products in addition to a lack of trust in relation to the certification bodies responsible. Meanwhile, increasing demand for these products comes as a result of food intolerance and hygiene safety issues. Through this framework it is crucial to clarify the concept from the consumer perspective. The objective of this paper is to understand consumer perceptions regarding organic attributes and identify the characteristics considered by consumers when buying organic products. The relative importance index shows the sensitivity of Albanian consumers in relation to the organic attribute, mainly in fruit and vegetables. Through the Contingent Valuation Method it is estimated that the consumer will pay an average premium of 27.7% for organic vegetables and 28.3% for organic fruit. The segmentation approach indicates that consumers linking organic attributes with health expressed a high willingness to pay for organic products. However, the majority use price as the main indicator of the quality of the product they consume; a higher price meaning an organic product. This conclusion is important in developing countries where consumers display low trust in food safety mechanisms and institutions.

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Introduction

Farming systems in Albania have changed radically at least three times over the last century. From being totally privately-owned at the beginning of the century, farms shifted to total state or collective-ownership after the Second World War, only to revert to private-ownership following the collapse of the collective system at the beginning of the 1990s (Guri *et al.*, 2011). All of these changes were driven by a unique objective: to reach a point of food security in Albania, while the methods used were heavily inspired by the main ruling ideology stream (Civici, 2003a). The collectivisation period improved farming systems by enlarging and merging plots, encouraging the heavy use of agricultural mechanics at least in the lowlands, increasing the use of chemical fertilisation, and the rotation of agricultural production strategies, all of which resulted in a net increase in agricultural yield (Civici, 2003a; Guri, 2008). The objective of the collective period of agriculture in reaching self-sufficiency, at least in cereal production, was realised for only a short period of time. Albania experienced a severe food shortage at the beginning of the 1990s after a period of food rationing that lasted for at least ten years (Civici, 1997). The decollectivisation period increased the number of farming households by 400 and reduced the average surface of agricultural units from 1,000 ha to less than 1.4 ha (Guri, 2010; Civici, 2003b). During the collective period, the production of fruit and vegetables, including the varieties consumed in Albania, was controlled and unified. However, the limited amount of chemicals used by state-owned farms and collective cooperatives built up the perception of Albanian fruit and vegetables as superior to imported products, with many assuming they were organic. During the first years of decollectivisation, the lack of public control over food safety, particularly imported products, increased consumer trust in domestically-produced fruit and vegetables. The results of qualitative studies in six Balkan countries indicated that consumers perceive domestic products as traditional, natural, healthy, and tasty[1]. Other studies carried out in Albania show that consumers do not differentiate between domestic and organic attributes when considering food products, especially fruit and vegetables (Kokthi *et al.*, 2015). In this vein, many scholars consider that organic fruit and vegetables in Albania are a valid solution to increase farming incomes within a framework of small and fragmented farming systems, which are in many cases situated in hilly and mountainous areas (Imami *et al.*, 2017; Skreli *et al.*, 2017). However, the evolution of organic

1. Focus – Balkans (2011). The market of organic products and traditional foods in the Western Balkan Countries (WBC) – Results of qualitative analyses in six WBCs. 5th Newsletter, November 2011, available at: www.focus-balkans.org.

fruit and vegetables in Albania has developed very slowly. According to Richter and Padel (2007), only 0.1% of Albanian agricultural land is registered as organic, which translates to 93 farms producing organic fruit and vegetables. The limited use of the organic label in Albania for fruit and vegetables is mainly linked to the low level of trust conferred on the existing organic label schemes in Albania; although the situation is quite different in relation to herbs and spices for which the majority of production is registered as organic. As a result, instead of the word "organic", fruit and vegetable producers often prefer to describe their products with the following designations: natural, seasonal, fresh or simply state the origin of the product. This practice means that the premium price attributed by consumers to the organic characteristic is lost.

Although consumers do not have in mind a clear list of organic attributes, they consider them during the purchasing process. Lancaster (1966) describes products as possessing a multitude of characteristics; these are laid out in the works of Nelson (1970) and Darby and Karni (1973) in terms of attributes related to search, experience, and credence. From the informational viewpoint, organic products are classified as credence goods (Nelson, 1970) because consumers cannot verify their organic attributes either before or after consumption. Attribute information, such as organic, is therefore analysed because it enhances consumer quality expectations and acts as a cue suggesting other attributes related to product quality such as taste (Ditlevsen *et al*., 2020; Hemmerling *et al*., 2016; Nadricka *et al*., 2020; Piqueras-Fiszman & Spence, 2015; Prada *et al*., 2017). In this context, the success of organic product schemes is intimately linked with the warranty offered by the institutions enforcing label controls, confirming that these products really are organic.

The misunderstanding related to organic product characteristics may encourage misleading practices with producers incorrectly adding an organic label to their products. This in turn may lead to consumer confusion in terms of the validity of the organic labels on the market, possibly leading to a decrease in consumer expectations and willingness to pay (Kokthi *et al*., 2016; Kokthi & Kruja, 2017). Within this framework it is important to understand consumer preferences in order to help farmers in the decision-making process as to whether they should produce organic goods and the best marketing strategy related to that decision. Information about consumer preference can also assist policymakers in the most efficient policy instruments to support farmers. The identification of the maximum price that consumers are willing to pay (WTP) and the determination of the factors that influence purchasing decisions will provide valuable information in this regard. The objective of this paper is to analyse consumer behaviour in relation to organic fruit and vegetables from a consumer segmentation perspective. The paper addresses this objective by focusing on the three

aspects necessary to understand: 1) whether consumers express an appetite to pay a higher premium for organic fruit and vegetables, 2) if there is a distinguishable type of consumer who is willing to pay more for the organic attribute, and 3) if the consumer relates the higher cost to the health or taste characteristics of organic products.

This paper is organised into four sections. The first examines the literature review of organic products from the perspective of the information offered to consumers. The second presents the methodology applied. A discussion of the field research results is presented in the third section, while conclusions are provided in the final part.

1. Literature Review

The rising incidence of lifestyle diseases, such as heart disorders and diabetes, show a growing preference for organic food over that which is conventionally grown, not only in developed countries but also in developing nations (Rana & Paul, 2017). The escalating occurrences of food-related diseases, such as Avian Influenza and Bovine Spongiform Encephalopathy (commonly known as "Mad Cow" disease) have increased the potential consumption of safe food items (Canavari *et al.*, 2007). This positive shift in consumer attitude occurred because organic food comforts the health fears expressed by modern consumers. Organic agriculture combines several practices including the application of organic fertilisers, locally adapted seeds/breeds, biological pest control, and intercropping with nitrogen-fixing trees, legumes, or with other synergistic crops (Adamtey *et al.*, 2016). In parallel with the rising emphasis on food safety and a healthy consumption relationship, organic production schemes incorporating the minimisation of chemicals have been recognised as an alternative food and agricultural supply system (Ceylan *et al.*, 2018). Thus, understanding consumer perceptions and how the informational value of the organic attribute is processed is not only a matter for marketers but also policymakers, especially in developing countries. Several authors have analysed the impact of the organic attribute on consumer preferences, taking into consideration different characteristics and viewpoints. Food safety has been identified as a key stimulus in increasing the consumption of organic food (Ranjbarshamsi *et al.*, 2016; Ceylan *et al.*, 2018; Elsa *et al.*, 2007; Hempel & Hamm, 2016). Other works undertaken in this direction show that in developing countries other labels under the umbrella of food safety, such as a lower chemical and pesticide attribute, receive a higher evaluation than organic food. These findings are linked to the fact that such attributes are more explicit to the consumer than those pertaining to the organic offering (Kokthi *et al.*, 2015). Consequently,

in emerging economies, the growth of the organic market will depend on the perceived robustness of regulatory systems (Shahabi Ahangarkolaee & Gorton, 2020).

Similarly, consumer attitudes have evolved over the years, primarily due to ethical concerns about the environment (McEachern & McClean, 2002). Social norms and environmental concerns in developed countries have created a feeling of moral obligation and a positive attitude among consumers towards the environment (Schwartz 1973, 1977). Practicing ethical consumerism inspires consumers to buy green or "eco-friendly products in order to satisfy their ethical responsibility" (Cho & Krasser, 2011). Organic food consumption decisions can be explained by relating attributes of organic food with more abstract values such as "security", "hedonism", "universalism", "benevolence", "stimulation", "self-direction" and "conformity" (Aertsens *et al*., 2009). In addition, the globalisation of food systems has created another attribute articulation known as local-organic. According to Milestad *et al.* (2017), environmental concerns and the globalisation of the food system are supportive arguments for local-organic food legitimacy. Ditlevsen *et al*. (2020) show that when comparing conventional consumers and those who buy organic, the motivations of the latter were more likely to include environmental issues in their deliberation. In addition, other studies have found when analysing short chain and local product schemes that local is viewed by the consumer as safer than organic (Kokthi *et al*., 2015). The explanation is that in developing countries consumers usually confuse organic agriculture with primitive methods. The literature also shows that many terms are used to refer to organic food, such as "natural", "local", "fresh", and "pure" (Hemmerling *et al*., 2016; Rana & Paul, 2017).

Health consciousness is another factor that strongly motivates consumers to purchase organic food. A neutral food product with an organic label is perceived to be healthier than the same product without such a label (Nadricka *et al*., 2020), while quality and taste are also significant considerations (Bernard & Liu, 2017). Cranfield *et al*. (2012) confirm these results and show that the environmental attribute is not significant during the purchasing decision. Other works point to taste as being relevant in the decision-making of organic consumers. An organic label increases the perceived taste and attractiveness of healthy food, which suggests an "organic = healthy = tasty" intuition (Bryła, 2016; Nadricka *et al*., 2020; Prada *et al*., 2017).

Studies focusing on willingness to pay show that consumers express a high willingness to pay for organic products compared with conventional ones (Bryła, 2016; Hempel & Hamm, 2016). However, the results on consumer preferences should not be generalised because they are a function of product type and the consumer's place of residence. According to Vecchio *et al.* (2016), consumers assign higher preference for locally-produced organic food

compared to organic products coming from outside the area. Imami *et al.* (2017), Vecchio *et al.* (2016), and Wägeli *et al.* (2016) came to the same conclusion; consumers living in rural areas are less willing to pay a premium for organic products than their urban counterparts. Rana and Paul (2017) classify the motivations for the importance accorded to health consciousness, quality and safety, with goods that are environmentally-friendly also very important. The less important group includes fashion trends, unique lifestyle, and social consciousness.

In conclusion, health and other quality attributes such as nutrition, taste and freshness are identified as being the most important to consumers when buying organic products. These are even more significant compared to environmental issues and rural sustainable development (Elsa *et al.*, 2007; Henry-Osorio *et al.*, 2012; Jahaveri *et al.*, n.d.; Mahé, 2009; Tagbata & Sirieux, 2010; Skreli & Imami, 2012). The following section examines whether the Albanian consumer makes an exception to follow the same model of those in other countries.

3. Methodology

3.1. *Sample selection and questionnaire*

The survey was conducted in 2019 on a sample of 324 consumers interviewed in different fruit and vegetable markets in the Tirana district. Consumers were interviewed in minimarkets (12.3%), supermarkets (16.7%), specialised fruit and vegetable markets (49.4%), and farmers markets (21.6%). Convenience sampling is applied. Several scholars have opted for convenience sampling because of its advantages in recruiting consumers at grocery stores, which are easy to reach in a low cost setting (Huang & Lee, 2014; Krystallis *et al.*, 2006). Only fruit and vegetable buyers are included in the study.

The questionnaire used for the purpose of this study was composed of three sections: the first collected the socio-demographic information of respondents such as: gender, age, education, income, and household size. The second section pertained to purchasing behaviour, asking respondents about their expenditure on fruit and vegetables and the main factors they consider when shopping. Attributes such as price, freshness, taste, and origin were retained from the literature review (see table 1 on sample statistics). A control question was also included regarding preferences about the organic attribute. The directed question was asked in relation to the daily consumption basket (fruit, vegetables, meat, dairy, cereals and beverages). The question was worded as follows: *From one to five how important is the organic attribute in the decision to buy fruit, vegetables, meat, dairy, cereals and beverages?*

Table 1 - Survey variable description

Variables	**Description**	**Frecuency**
Gender	1. females, 2. males	74% 26%
Age	Age categories: 18-24, 25-34, 35-44, 45-54, 55-64, 65+	 10,2 27,6 27,5 22,2 9,9 3,7
Education	Education level Low: 1-8 years; Medium: 8-12 years; High: more than 12 years	 7,7 33 59,3
Marital status	Single , Married, Other	19,8 71,6 8,6
Income Euro/monthly	€ 71-428, € 429-642, € 643-857, € > 857	15 32,7 24,4 28
Attributes considered as important during the buying process	Origin is the most important attribute when choosing fruit and vegetables 1 = Yes 41% 0 = No 59%	
	Price is the most important attribute when choosing fruit and vegetables 1 = Yes 56% 0 = No 44%	
	Appearance is the most important attribute when choosing fruit and vegetables 1 = Yes 12% 0 = No 88%	
	Freshness is the most important attribute when choosing fruit and vegetables 1 = Yes 72% 0 = No 28%	

Variables	Description	Frecuency
The extra payment for organic and the attributes implied	The extra payment for organic fruits and vegetables is linked to the higher nutritional values 1 = Yes 68% 0 = No 32%	
	The extra payment for organic fruits and vegetables is linked to freshness 1 = Yes 67% 0 = No 33%	
	The extra payment for organic fruits and vegetables is linked to health 1 = Yes 54% 0 = No 46%	
	The extra payment for organic fruits and vegetables is linked to Taste 1 = Yes 18% 0 = No 82%	

Source: Authors' elaboration

Scale one indicates that the organic attribute is not at all important and five ranks it as very important. Zero is also added to the scale as a 'don't know' option in order not to force a response. The preference importance index (RII) based on a five Likert scale allowed us to construct an index that facilitates the evaluation of the rate of importance conferred by consumers to the organic attribute in the considered food product category. This index also helps to identify the food product category that provokes a highly sensitive response from the consumer in relation to the organic attribute. The evaluation of the RII is followed by the CVM scenario, which yields the monetary value for the organic attribute. The combination of the two stated choice methods increases the viability of the data (Breffle *et al.*, 2011). In the following sections, the CVM is explained.

3.2. *Method*

Many researchers have analysed the effect had by the organic product attribute on consumer preferences and the impact of the latter on their willingness to pay (WTP). The methods used to determine the extra premium for organic attributes are ascertained by the CVM (Apaolaza *et al.*, 2018; Gil, 2000; Huang & Lee, 2014; Jo & Lusk, 2018; Mesías Díaz *et al.*, 2012;

Romano *et al*., 2018; Yiridoe *et al*., 2005), choice experiment (CE) (Hempel & Hamm, 2016; Janssen & Hamm, 2012; Magnusson *et al*., 2001), hedonic price and experimental auctions. In addition, sensorial experiments with products are increasingly used by researchers to assess preferences for sensorial attributes and the intrinsic characteristics of products (Bernard & Liu, 2017). The combination of sensorial experiments with experimental auctions is becoming an increasingly consistent trend in consumer preference analysis. This combined approach helps researchers to obtain a simultaneous assessment of preferences both in terms of the product's internal and external characteristics (Gallardo *et al*., 2018). The application of an experimental auction is a costly setup that can be successfully developed in markets where consumers have previous experience with such experimental instruments (Kokthi & Kruja, 2017). In the same vein, CE is applied when trade off decisions are demanded. The objective of the present study is to examine the extra payment that consumers are willing to pay for the organic attribute with no trade-offs included. CVM presents an interesting method that can be used flexibly with a range of goods and services that can be easily identified by consumers. It involves directly asking participants, in a survey, how much they would be willing to pay for a certain attribute of a particular product (Portney, 1994). CVM is considered the "stated preference" method because it asks consumers to directly state their values, rather than inferring values from actual choices, as is the case with "revealed preference" methods (i.e. CE). Since CVM is based on what people say it is a source of weakness. However, the combination of different contingent scenarios can increase the reliability of the data collected. To that end, two techniques of CVM are applied in the present study. The respondents were asked as follows: *Assuming that 1kg of fruit is priced at 100ALL in your store/shop, would you pay 150ALL to buy organic products?* Respondents could choose yes or no. The CVM scenario concerning vegetables is presented separately from the fruit CVM scenario. In addition to the referendum type of question a payment card was introduced in order to capture other WTP intervals and calibrate the WTP responses generated. This question type is criticised for its overestimation in the WTP assessment due to the use of a hypothetical scenario, the warm glow effect, and an affirmative bias (Portney, 1994). In this vein, a payment card design similar to that of CVM was applied (Hu *et al*., 2011). The payment card helps respondents to visualise the values and decreases the number of protest bidders. In the present study, respondents were presented with 5 bids; a zero payment was included in order not to force the choice decisions. Additionally, a regular price of 100ALL[2] was given to

2. Albanian Lek.

respondents and it was explained that the anchor price is hypothetical and is included in the payment card to help the pricing process. The wording of the scenario was as follows: *Assuming that 1kg of fruit and vegetables is priced at 100ALL in your store how much are you willing to pay? 10%__, 20%__, 30%__, 40%__, 50%*. After choosing one of the bids on the payment card the respondent was asked to justify their extra payment using one of the following attributes linked to the organic category, such as: 1) taste, 2) freshness, 3) high nutritional value, and 4) health. These attributes were identified in the literature review and supported by an open interview with 30 random consumers at the fruit and vegetable market. The question directed to consumers was: *What comes to mind when thinking about organic fruit and vegetables?* Consumers mentioned only the four attributes included in the questionnaire.

3.3. *Statistical analysis*

Several statistics are used to achieve the study objectives. First, the relative importance index (RII) is calculated on the part of the consumer regarding the organic attribute in their daily basket. Fruit, vegetables, meat, dairy, cereals and beverages are included. Following Holt (2014), the calculation of the relative importance index is computed using the following formula:

$$\textbf{Relative Importance Index} = \frac{\sum w}{AN} = \frac{5n_5 + 4n_4 + 3n_3 + 2n_2 + 1n_1}{5N} \quad (0 \leq \text{RII} \leq 1)$$

where *w* is the weighting given to each food product category by the respondent, ranging from one to five. The n shows the number of respondents in each scale, for example n_1=the number of respondents choosing not at all important, while n_5=number of respondents who choose very important. A is the highest weight (i.e. five in the study) and the N is the total number of respondents. Secondly, the linkage between WTP and demographic factors is investigated through a multinomial logistic regression (MLR). MLR is useful to classify subjects based on the values of a set of predictor variables. It is a classification method that generalises logistic regression to multiclass problems, i.e. with more than two possible discrete outcomes (Green *et al*., 2012). The model tested for this purpose is as follows: WTP for organic attribute as a function of demographics and the motivation to express an extra payment (health, freshness, taste, and higher nutritional value).

$$WTP = \beta 0 + \beta 1Age + \beta 2Gender + \beta 3Education + \beta 4AIncome + \beta 5health + \beta 6freshness + \beta 7taste + \beta 8nutrition + \varepsilon$$

Finally, two multivariate methods were used: PCA (Principal Component Analysis) and CA (Cluster Analysis) in order to classify consumers into similar segments according to their WTP, behaviour and motivation in relation to the elevated price of organic products.

Cluster Analysis is performed in two stages: a). Hierarchical clustering to define the most appropriate number of clusters, and b). Non-hierarchical clustering to define the clusters of the sample and the characteristics of each type. The main variables used for classification were: Freshness-Organic, Health-Organic, Taste-Organic, Nutrition values-Organic, Fresh, Purchase place, Appearance, Price, Origin, WTP fruits, WTP vegetables. For the Principal Component Analysis (PCA), the Kaiser-Meyer-Olkim (KMO) test was used to measure the relationship between variables (see table 2).

Table 2 - Correlation matrix between principal component analysis factors

PCA factors		**Purchase place**	**Freshness**	**Apperance**	**Price**	**Origin**	**WTP Vegetables**	**WTP Fruits**	**Organic-fressh**	**Organic-healthy**	**Organic-taste**	**Organic-high nutritional values**
Correlation	Purchase place	1,000	–,006	,049	–,018	–,042	,115	,095	–,042	,084	,116	–,001
	Freshness	–,006	1,000	–,032	,022	–,216	,189	,211	,224	,179	,111	,136
	Apperance	,049	–,032	1,000	,013	,196	,116	,113	–,025	–,037	,089	,067
	Price	–,018	,022	,013	1,000	–,332	–,238	–,234	,037	,008	–,052	,034
	Origin	–,042	–,216	,196	–,332	1,000	,124	,134	,046	,059	,194	,108
	WTP Vegetables	,115	,189	,116	–,238	,124	1,000	,934	,077	,309	,272	,255
	WTP Fruits	,095	,211	,113	–,234	,134	,934	1,000	,037	,259	,256	,237
	Organic-fressh	–,042	,224	–,025	,037	,046	,077	,037	1,000	,305	,486	,310
	Organic-healthy	,084	,179	–,037	,008	,059	,309	,259	,305	1,000	,325	,199
	Organic-taste	,116	,111	,089	–,052	,194	,272	,256	,486	,325	1,000	,451
	Organic-high nutritional values	–,001	,136	,067	,034	,108	,255	,237	,310	,199	,451	1,000

Table 2 - continued

PCA factors		Purchase place	Freshness	Apperance	Price	Origin	WTP Vegetables	WTP Fruits	Organic-fressh	Organic-healthy	Organic-taste	Organic-high nutritional values
Sig. (1-tailed)	Purchase place		,457	,188	,376	,228	,019	,044	,227	,065	,019	,493
	Freshness	,457		,282	,346	,000	,000	,000	,000	,001	,023	,007
	Apperance	,188	,282		,407	,000	,019	,021	,326	,253	,055	,113
	Price	,376	,346	,407		,000	,000	,000	,255	,440	,178	,272
	Origin	,228	,000	,000	,000		,013	,008	,207	,144	,000	,026
	WTP Vegetables	,019	,000	,019	,000	,013		,000	,084	,000	,000	,000
	WTP Fruits	,044	,000	,021	,000	,008	,000		,254	,000	,000	,000
	Organic-fressh	,227	,000	,326	,255	,207	,084	,254		,000	,000	,000
	Organic-healthy	,065	,001	,253	,440	,144	,000	,000	,000		,000	,000
	Organic-taste	,019	,023	,055	,178	,000	,000	,000	,000	,000		,000
	Organic-high nutritional values	,493	,007	,113	,272	,026	,000	,000	,000	,000	,000	

Source: Authors' elaboration

Four underlying factors explain 62% of the total variance (see table 3).

Table 3 - Total variance explained by PCA

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2,807	25,517	25,517	2,807	25,517	25,517	2,151	19,556	19,556
2	1,631	14,831	40,348	1,631	14,831	40,348	2,138	19,439	38,995
3	1,360	12,365	52,712	1,360	12,365	52,712	1,460	13,275	52,271
4	1,062	9,657	62,369	1,062	9,657	62,369	1,111	10,098	62,369
5	,987	8,969	71,338						
6	,813	7,395	78,733						
7	,771	7,008	85,741						
8	,581	5,286	91,027						
9	,503	4,569	95,596						
10	,422	3,833	99,429						
11	,063	,571	100,000						

Source: Authors' elaboration

Table 4 - PCA Rotated component matrix

PCA Factors	Component			
	1	2	3	4
Purchase Place				,646
Freshness	,343		,509	
Apperance				,675
Price	–,400		,599	
Origin			–,831	
WTP vegetables	,924			
WTP-fruits	,930			
Organic-freshness		,794		
Organic-health	,303	,520		
Organic-taste		,795		
Organic-high nutritional value		,666		

Source: Authors' elaboration

The factors resulting from the PCA are used in the two-step clustering method: First, a hierarchical clustering method was used to create clusters of consumers within the sample. The algorithm used in this analysis was Ward's method with squared Euclidean distance measure. The number of clusters produced is four. The cluster selection is supported by the ANOVA test, see table 5 for high F values and P values < 0.001.

Table 5 - Anova results

Variables	F	Sig value
Freshness-organic	55,629	.000
Health-organic	46,410	.000
Taste-organic	223,208	.000
Nutrition values-organic	34,953	.000
Fresh	9,734	.000
Place of purchase	147,891	.000
Appearance	8,876	.000
Price	21,433	.000
Origin	73,477	.000
Pay more fruit	47,413	.000
Pay more vegetables	54,136	.000

Source: Authors' elaboration

We used K-Means Cluster Analysis with the number of clusters defined by the previous stage. Table 3, above, shows the mean of each variable for each cluster.

Table 6 - Consumer classification

Attributes	Cluster 1	Cluster 2	Cluster 3	Cluster 4
Freshness-organic	0.29	0.94	0.21	0.08
Health-organic	0.40	0.98	0.56	0.08
Taste-organic	0.02	0.88	0.10	0.00
Nutrition values-organic	0.28	0.83	0.25	0.08
Place of purchase	1.66	2.35	3.18	2.19
Fresh	0.82	0.87	0.66	0.52
Appearance	0.05	0.21	0.04	0.26
Price	0.64	0.33	0.46	0.10
Origin	0.14	0.75	0.22	0.87
WTP organic vegetables (%)	25.34	34.81	28.09	26.13
WTP organic fruits (%)	26.18	35.00	27.94	27.74

Source: Authors' elaboration

4. Results and discussion

The higher relative importance index for fruit and vegetables compared to meat and dairy shows the pertinence of the monetary evaluation of the organic attribute. The RII of fruit and vegetables is 0.91 out of 1, showing the higher sensitivity of Albanian respondents toward the organic attribute. The meat RII is 0.87 out 1 and that for dairy is 0.75 out of 1. In the category of cereals and beverages, the respondents reported not knowing if organic is important. The results show that lack information about the organic attribute and its importance is evident only in fruit and vegetables. Following the RII results, about 93% of respondents considered organic product information to be important in their decision to buy fruit and vegetables. In this regard, respondents were asked: *Assuming that 1kg of fruit/vegetables is priced at 100ALL in your store/shop, would you pay 150ALL for organic products?* 93% reported their willingness to pay the proposed amount. However, when the payment card scenario was presented only 16.3% were willing to pay 50% above the anchor price. The same result is observed for both fruit and vegetables. The use of two different techniques show the need to calibrate and adapt the CVM scenarios in order to obtain an accurate evaluation of the sacrifice that consumers are willing to make. Figures 1 and 2 show the distribution of the WTP in the interviewed sample.

Figure 1 - WTP for organic vegetables

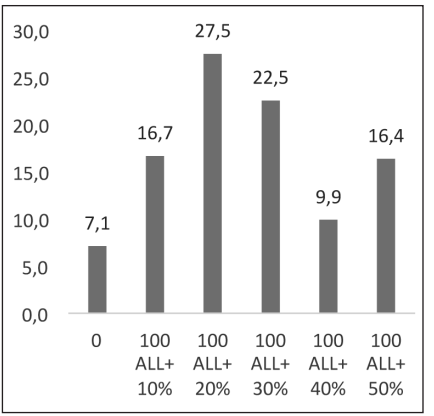
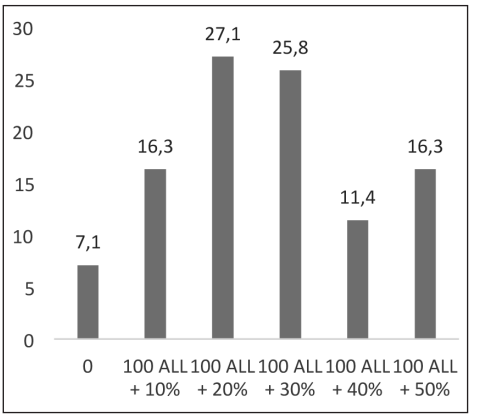


Figure 2 - WTP for organic fruits



Source: Authors' elaboration

The payment card data analysis show that consumers are willing to pay on average about 27.7% more for organic vegetables and 28.3% for organic fruit. The paired t-test shows that the difference between the two evaluations is statistically different (t = –2,167; p = .031). There are two explanations behind these results. The first being that fruit is still considered a luxury good and so the WTP is higher; second, fruit is generally not processed before consumption (cooked, boiled, etc.), meaning that the risk of being contaminated by the chemical residue of non-organic food is higher compared to vegetables.

These results confirm the fact that organic remains a black box since all of the attributes are inferred as organic; this is also true for highly educated people.

The results of Multinomial Logit Regression

The main indicators when dealing with a MLR procedure include: a) Model fitting information (Chi-Square = 653,783; p (value) = 0,000), b) Goodness-of-fit test through Pearson (Chi-Square = 929,498; p (value) = 0,915), and c) the coefficient of determination (Nagelkerke's R^2 = 62%). The Nagelkerke's R^2 shows a good proportion of variance in WTP for organic vegetables associated with the independent variables computed in the model. Regarding the effect of demographics in the levels of WTP, women with a low level of education are 9 times more likely than men to express zero payment when compared to WTP up to 20% (which is the premium expressed by 32% of participants in the study). Similarly, participants with low levels of education were nine

time more likely to pay 10% than 20% more. Participants who had completed eight to 12 years of schooling were twice as likely to pay 30% as 20% for organic vegetables. Interesting results occur when the "100ALL+ 20%" payment is compared to "100ALL+ 50%". Young consumers from 18-34 years old with a monthly income level ranging from €429 to €642, when linking the extra payment for organic with the health attribute were more willing to pay an extra 50% above the anchor price. Also post-hoc analysis shows that those aged 35-44 years and 45-54 years bid a WTP of 30% and 29% respectively. While the 65+ age group showed the lowest WTP of about 22% for organic fruit and vegetables. Concerning the income effect, those earning a high income showed the highest WTP at about 30%. The lowest bid was offered by participants with an average monthly income ranging from €215-428. Highly-educated respondents linked the extra payment for organic vegetables to health, while those with low levels of education associated the extra payment for organic with freshness and taste. This demonstrates the lack of information about the organic attribute.

Regarding the MLR on fruit, the following information is provided: a) Model fitting information (Chi-Square = 683,329; p (value) = 0, 00), b) Goodness-of-fit test through Pearson (Chi-Square = 929,498; p (value) = 0,715), and c) the coefficient of determination (Nagelkerke's R^2 = 58%). The Nagelkerke's R^2 show also a good proportion of variance in WTP for organic fruit associated with the independent variables considered in this study. Women with low levels of education were more likely than men to express zero payment when compared to their expressed WTP to WTP up to 20% (which is the premium expressed by 27% of the study participants). In the same vein, less educated respondents were 8 times more likely to pay a 10% premium than one of 20%. As with vegetables, young, highly-educated, high income respondents bid the highest WTP when considering fruit. Young consumers are more likely to pay a higher premium for organic fruit and vegetables. Similarly, only young-highly educated respondents linked the extra payment with the health claim.

In this vein, when analysing a quality differentiation scheme for a given product, it is important to examine the factors that motivate consumers to pay an additional premium. This information is necessary to better signal the organic label. In this framework it is crucial to examine whether WTP is related to taste, freshness, high nutritional value, or the health aspects of organic products. The results show that consumers connect the extra premium first to nutritional values, second to freshness, third to health, and finally, to taste. The results point to a limited knowledge on the part of Albanian consumers about organic products and confirm the findings of similar studies conducted in the country. Organic information is not presented clearly to Albanian consumers (Kokthi *et al.*, 2015). Moreover, organic information is often interchangeable with the made in Albania attribute.

In addition to the demographic effects on WTP, we have also analysed this effect in the associations made in the extra payment for organic fruit and vegetables. The Kruskal-Wallis test is used for this purpose. It is a rank-based nonparametric test that can be used to determine if there are statistically significant differences between two or more groups of an independent variable on a continuous or ordinal dependent variable. In this case the analysis is whether there is a difference in the mean rank of nutritional-organic, fresh-organic, health-organic, and taste-organic when the considered demographic factors are age, education, income, gender, marital status, and household size.

Related to the high nutritional value attribute linked to organic fruit-vegetables, only gender shows a significant effect. The Kruskal-Wallis test showed that there was a statistically significant difference in scores between women and men, $\chi^2(2) = 5{,}457$, $p = .019$, with a mean rank of 152 for women and 174 for men. Taste was shown to be statistically different in the group age variable $\chi^2(2) = 4{,}500$, $p = .034$. Respondents corresponding to the group aged 65+ linked the extra payment for organic with better taste. Other studies show that these consumers do not associate organic with health because older respondents are less aware of food safety risks, which do not affect their life expectancy (Kokthi *et al.*, 2015; Govidansamy *et al.*, 2010). Future studies should take into consideration the cultural dimensions of the population. In the Albanian case, higher levels of collectivism and risk avoidance – the two characteristics evidenced by Hofstede (www.hofstede-insights.com/product/compare-countries/) – require public intervention in terms of settling down and controlling the emerging organic schemes operating in the country. In societies where higher scores are attributed to collectivism-individualism, people tend to focus more on attributes other than health but for hedonic reasons. When the extra payment for organic is linked to health, age $\chi^2(2) = 14{,}232$, $p = .001$, marital status $\chi^2(2) = 10{,}035$, $p = .007$, education $\chi^2(2) = 4{,}415$, $p = .036$ and income level $\chi^2(2) = 16{,}097$, $p = ,003$ show a significant effect. Married people with a higher education level and high income link the extra payment to the health attribute. When freshness is considered, no demographic effect is observed. In addition to these attributes we have included in the questionnaire the option – *all the attributes are important*. Around 23% of respondents linked the extra payment with all attributes. Marital status scored $\chi^2(2) = 8{,}526$, $p = .014$, with a mean rank score for single people of 179 and 153 for married people. Education was found to be $\chi^2(2) = 26{,}823$, $p = .036$, with a mean rank of 127 for those with a lower education qualification and a mean rank of 174 for highly educated people. Regarding income level, $\chi^2(2) = 23{,}108$, $p = .000$ shows a significant effect with a higher mean rank for higher income earners. These results confirm the fact that organic remains a black box since all attributes are assumed to be organic and this is also true

for highly educated people. These results have been completed also by the consumer segmentation procedure (see table 6).

The PCA analysis produced four groups of consumers: *Cluster 1* – refers to price-oriented consumers. This group represents around 41.8% of the sample. For this category, high price is an indicator of organic attribute and drives the decision to buy and pay extra for the product. Consumers classified in this group have little or no information about the qualities of fruit and vegetables. Their decision to buy is generally comprised of the extrinsic attributes of the products (place of purchase, price, etc.). For this group of consumers the existence of a formal and trusted organic label is the best option and is a guide to the buying process. Even though their average extra WTP for organic products is not among the highest (25-26%), they can be considered high potential consumers for organic products in general, not only fruit and vegetables. *Cluster 2* – consumers who seek fresh and healthy products. Consumers within this group (about 16.6%) appreciate all considered attributes when deciding to accept an extra payment for organic fruit and vegetables. Their average extra willingness to pay is the highest. This group generally consists of experienced consumers who trust more their own judgment than the formal signs of quality, such as the organic product label. During the purchase process they evaluate a number of attributes (freshness, origin, etc.); "picky" consumers are identified as those who are very hard to satisfy but are prepared to pay higher prices for products they appreciate. *Cluster 3* – No specific orientation. This category (about 21.7%) most appreciates the freshness attribute when selecting fruit and vegetables, and health is the attribute for which they pay more, even though the score on attribute is 0.6 (from 0 to 1). The result shows that this cohort is neither aware of nor informed about the real attributes and qualities of organic products. This group is less likely to be highly potential consumers of organic products and can easily substitute organic goods for non-organic fresh ones. Although they have a positive average extra WTP, there are no proper organic product attributes to incite them. *Cluster 4* – origin-oriented consumers (about 19.9%). This segment appreciates only the origin factor in the decision-making process (for fruit and vegetables). The locality of the product is very important for this group of consumers according to other studies by Kokthi *et al*. (2015, 2016), and the local product is considered to be safer than organic.

4. Conclusions

Albanian consumers show very high sensitivity to organic fruit and vegetables. This is also observed within the meat category, which highlights the need for further studies in this sector. However, when dealing with

the beverages and cereals category respondents do not know how to reply. This might be related to the level of processing involved in these products. Generally, cereals and beverages are highly processed foods, which results in the consumer losing their connection with the raw product. It is for this reason that respondents have difficulties to understand the nature of an organic highly processed food product. Dairy products, on the other hand, are considered to have a medium level of processing and derive important sensitivity to organic attribute (0.76 out of one), albeit not an extreme one. For the Albanian consumer organic products are related to raw agricultural products. The more the product is processed, the less it is perceived to be organic. Other studies made in this direction show that organic is typically associated with fresh agro-food products, although there is a growing trend in the world market to extend organic certification and production to processed food (Imami *et al.*, 2017; Skreli *et al.*, 2017; Zhllima *et al.*, 2017). These findings show the necessity of raising consumer awareness as to the definition of organics and about the processing methods that fulfil organic requirements.

In relation to WTP, the extra price for the organic attribute for fruit and vegetables evaluated through the referendum CVM technique is almost double that of the WTP indicated by consumers through the payment card format. These findings show that the use of CVM should be cautious in order to offer qualitative and accurate data for interested actors such as producers and policymakers. Consumers are willing to pay on average 27.7-28.3%% more for organic fruit and vegetables. While Albanian consumers expressed a high willingness to pay for organic products, more should be done to better inform them. The majority (41.8%) use price as the determinant factor of the quality of the product they consume. Other studies have noted that consumers seeking value, in cases when they cannot assess the quality based on intrinsic clues, view price as a distinctive indicator of quality (Judd, 2000). A high product price is perceived as a proxy for overall quality. Many consumers perceive high prices as signals of high quality, however, the relationship between price and objective quality is important for these consumers. In the context of low trust in organic schemes due to the lack of day-to-day public quality control (as is the case in Albania), price seems to be more important than the stamp on the label. We consider that this result is not specific for Albania (Deliana, 2012). However, the exaggerated importance of the price may lead to abuse by producers and requires greater consumer awareness. Producers too should be aware of the high market potential to absorb organic products and lead to investments in organic products. The analysis of WTP for organic fruit and vegetables noted statistically different averages. The consumer in Tirana has a higher WTP for organic fruit. This conclusion has a distinctive meaning in the Albanian case because the consumer considers fruit to be a luxury good. On the other hand, fruit is

generally consumed fresh so consumers are more concerned about pesticide residuals compared with vegetables, which are generally prepared before consumption.

The findings of this paper are in line with public policy to encourage support for organic fruit and vegetable products in Albania. Organic products have a broad market in the country, and may even serve in the future as a development tool for small and fragmented farming systems to improve income levels. Farmers, on the other hand, may use participation in the organic product scheme to better employ the household workforce in the context – as in Albania – of low mechanisation farming systems. Public institutions should ensure support of farmers in terms of administrative and financial issues related to participation in organic schemes that in many cases remain prohibitive for small individual farmers.

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