



**AgEcon** SEARCH  
RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

*The World's Largest Open Access Agricultural & Applied Economics Digital Library*

**This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.**

**Help ensure our sustainability.**

Give to AgEcon Search

AgEcon Search  
<http://ageconsearch.umn.edu>  
[aesearch@umn.edu](mailto:aesearch@umn.edu)

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*

Rainer HAAS\*, Drini IMAMI\*\*, Iliriana MIFTARI\*\*\*, Prespa YMERIE\*\*\* and Klaus GRUNERT\*\*\*\*

## How do Kosovar and Albanian consumers perceive food quality and safety in the dairy sector?

Kosovo and Albania, in a manner similar to other Western Balkan countries, face serious challenges in relation to national food safety and control in terms of legislation, infrastructure, institutional capacity and private investments. Consequently, food safety is a major concern for consumers in this region. The objective of this study was to gain a better understanding of consumer perspectives on food safety and quality. Two surveys, one with consumers in Prishtina and one in Tirana, targeted more than 600 consumers. Despite the prevalent problems with food safety, Kosovars perceive domestic dairy products as significantly better than Albanians do when compared with imported food products. Conversely, Albanian consumers use food safety- and quality-related information about cheese and milk more frequently. The most frequently used safety and quality cues for both samples are expiry date, domestic and local origin and brand reputation. Food safety certificates are used by Albanians more often than by Kosovars, and international food standards such as ISO, HACCP or Global GAP are mostly unknown to both consumer groups.

**Keywords:** dairy sector, food safety, food quality, cheese, Albanian consumers, Kosovar consumers

**JEL classification:** Q13

\* Institute of Marketing and Innovation, Department of Economics and Social Sciences, University of Natural Resources and Life Sciences Vienna, Feistmantelstr. 4, 1180 Vienna, Austria. Corresponding author: rainer.haas@boku.ac.at

\*\* Faculty of Economics and Agribusiness, Agricultural University of Tirana, Albania.

\*\*\* Faculty of Agriculture and Veterinary, Department of Agricultural Economics, University of Prishtina, Kosovo.

\*\*\*\* Centre for Research on Customer Relations in the Food Sector MAPP, Aarhus University, Denmark.

Received: 5 October 2019, Revised: 15 November 2019, Accepted: 18 November 2019.

## Introduction

The livestock sector, in a manner similar to other Western Balkan Countries, is the most important agri-food sector in Albania and Kosovo, representing up to half of the output value of agriculture. The dairy market is one of the fastest growing agri-food sectors in the region, while cheese making is the most prominent activity in the dairy industry. Cheese is one of the main food items of the local household's consumer basket, predominantly produced locally. The two main types of cheese consumed in Albania and Kosovo are white (feta-like) and Kashkaval (hard yellow cheese) (Imami *et al.*, 2016a). The amount of international trade in cheese is very low in the region - imports, on the one hand, cover about 10% of the market, while exports, on the other hand, are of low importance due to high dairy production costs, lack of compliance with international safety standards and gaps in marketing, certification and branding. Consequently, the domestic market is and will remain the most important market for the local dairy industry (Imami *et al.*, 2016a).

While cheese sold in supermarket chains is usually sourced from agroindustry, it is commonly found that cheese produced informally by farmers or small informal processors is sold in small neighbourhood shops or fresh markets. There have been claims about the undeclared use of powdered milk and the production and sales of contaminated milk in Albania, as is evident from Albanian daily newspapers (Imami *et al.*, 2016b). Generally, cheese produced using fresh milk is considered superior, while there are concerns about the type/quality of powdered milk. However, there are serious problems regarding fresh raw milk production as well (e.g. microbiological contamination). Compliance with international standards, and espe-

cially EU standards, is becoming even more important when one considers the EU accession plans of the West Balkan Countries (WBCs).

Despite the importance of the livestock and specifically, the dairy sector within the agri-food sector and the significance of concerns relating to food safety standards, there is limited researcher understanding about consumer awareness and perceptions of food safety standards in the Western Balkans. This paper aims to fill in this gap by providing insight into consumer behaviour relating to food safety in the region, which might be of interest to policy-makers as well as private sector actors.

The paper is structured as follows. Section 2 provides a literature review on food safety with focus on WBCs, Section 3 describes the methods, Section 4 provides the results, whereas Section 5 consists of discussion and conclusions.

## Literature review on food safety with focus on WBCs

Developing and transition countries face serious challenges relating to food safety arising from weak animal disease controls, in which have caused a higher prevalence of endemic infectious animal diseases. Another major concern in developing or transition economies are the high levels of mycotoxins or aflatoxins (among the most potent mutagenic and carcinogenic substances known); high temperatures, moisture and unseasonal rains during harvest, poor harvesting and storage conditions all contribute to higher levels of mycotoxins, which are transmitted to dairy products (Bhat and Vasanthi, 2003).

Western Balkan Countries (collectively, one of the poorest regions in Europe) face serious problems with their national food safety control systems in terms of legislation, infrastructure, institutional capacity and enforcement, and related private investments, the effects of which pose both real and perceived safety risks for consumers. The problems in the Agricultural Health and Food Safety System have been identified by several studies, especially in the meat (Imami *et al.*, 2011) and dairy sectors (Gjeci *et al.*, 2015; Zhllima *et al.*, 2015; Haas *et al.*, 2016, Udovicki *et al.*, 2019). Brucellosis and aflatoxin production has been a major health concern for small dairy farmers (Gjeci *et al.*, 2015), while similar concerns are being raised in Serbia (Udovicki *et al.*, 2019). One of the reasons for this situation, in addition to weak law enforcement, is limited farmer awareness about animal diseases and food safety standards and their consequences in terms of health risks for farm households and end consumers (Gjeci *et al.*, 2016).

The described food safety problems are not unknown to local consumers – indeed, food safety is a major concern for local consumers in the region (Zhllima *et al.*, 2015). Origin and food safety certificates are among the most important attributes to guarantee food safety and quality according to Kosovo consumers, and for most of the consumers brands are an important means to communicate food safety (Haas *et al.*, 2016).

In general, we know that consumers use quality cues, which often represent a bundle of information, to reduce the complexity of their food choice. Cues are used by people when forming beliefs about objects which, in turn, influence their behaviour with respect to those objects (Eroglu and Machleit, 1989). Quality cues can be communicated over labels, brand names, food certification standards or country of origin (Marchesini *et al.*, 2007). Country of origin is a quality cue, which influences purchase decision even for low involvement food products (Ahmed *et al.*, 2004). Some of these quality cues are experience attributes like taste, or freshness, which you can only verify after use, others are search attributes like price or brand name and often there are credence attributes like food certification standards where the consumer has to believe in the correctness of the auditing process (Srinivasan and Till, 2002). By default, food safety is hardly considered as an experience attribute but rather as a credence attribute – in developed countries with consolidated institutions, consumers may trust public institutions and/or supermarket chains to guarantee food safety.

In the case of countries with weak institutional framework, such as the Western Balkan Countries, the level of trust in public institutions to guarantee food safety may be lower. Imami *et al.* (2011) have found that consumers trust more in the retailer than in institutions for guaranteeing food safety, and that when possible, consumers prefer to buy food directly from producers as a strategy to ensure safety and quality (Imami *et al.*, 2013). There is a competency gap between the generic knowledge for manufacturing food products and the specific knowledge necessary to implement food safety management systems in Serbian dairy industry, but increased customer confidence and working discipline of staff employed in food processing are important in the process of Hazard Analysis and Critical Control Points

(HACCP) implementation (Tomasevic *et al.*, 2016). On the other hand, the biggest knowledge gaps in the case of food handlers in Serbia relate to temperature control and source of food contamination (Smigic *et al.*, 2016).

Perception of food safety is affected also by socio-demographic factors. Gender and education levels are expected to correlate to consumer food safety perceptions - female and educated consumers are expected to show a higher awareness of food safety issues in line with findings from previous research work (Nganje and Katibie, 2003; Zhllima *et al.*, 2015).

Overall, there is a lack of research and understanding on consumer behaviour and perceptions in West Balkan countries regarding emerging concerns related to food safety and quality. Furthermore, previous studies focused generally on single WB countries – our study tends to address this weakness by providing research findings on a comparative basis for Albania and Kosovo. In this paper we use milk and cheese products as a representative product category, for which food safety is very sensitive, in order to measure the perception of consumers about quality and safety standards in the dairy sector.

## Method, data and descriptive statistics of the sample

In order to gain a better understanding of consumer perspectives on food safety and quality issues, a quantitative, structured survey with consumers from Albania and Kosovo took place in spring 2019. The questionnaire included questions about consumers' consumption habits and attitudes towards the quality and safety of dairy products. For the structured survey, a questionnaire was designed based on literature review and expert interviews to gain insights on the level of food safety in the agri-food sector and about consumer knowledge and preferences concerning food safety and food quality.

In the questionnaire two important item batteries measured food safety and quality perception. The first one was a 5-point Likert scale for food safety and quality perception of domestic milk and cheese taken from Bruner (2011). The second item battery presented a list of quality and safety attributes and asked the consumers in case they want to know about safety of cheese, which of these attributes do the check. The answer measured the frequency from 1 = never to 5 = always.

Pre-test interviews of the questionnaire took place in Pristina and Tirana with randomly selected consumers. The interviews were carried out by experienced graduates/students with equal share of interviews. Interviewers were trained by the authors of this paper while they were assisted and supervised throughout the survey implementation. Distribution of the sample was based on a convenience sample technique without using quotas. The face-to-face interviews took place on public places and market squares in Prishtina (Kosovo) and Tirana (Albania) between April and May 2019. The foreseen sample size was 300 interviews for each country. Monovariate and multivariate techniques following

the approach of Wongprawmas *et al.* (2018) were applied for data analyses.

In total 642 valid questionnaires were collected from the interviews in Prishtina (299 interviews) and Tirana (343 interviews). At the beginning of the questionnaire four questions were asked to make sure that the respondent is responsible for food shopping, especially milk and cheese, and cooking. From these four questions we calculated a sum of the responses for each respondent and excluded respondents with a score less than 7. Seven consumers of the 649 were excluded from further analysis. On average, there were 38% male and 62% female consumers in the sample. This is in accordance with literature that more females than men are involved in food preparation.

Concerning age groups, Prishtina and Tirana had comparable frequencies, except Tirana had double the number of consumers over 65. The mean age for respondents from Prishtina was 42.4 and from Tirana 43.9 (Table 1).

Regarding education, there was a significantly higher share of consumers in the middle school category in Prishtina, while in Tirana, the number of consumers with high school

and university degree was slightly higher. On average, half of the respondents had a university degree.

The distribution of household members shows typical characteristics of WBCs with fewer single households and a higher share of households with five or more people. In Austria, for example, there are only 6% of the households with more than five people compared to 65% in Prishtina, and 37% single households in Austria compares to 1% in Prishtina (Statistik Austria, 2018). Prishtina had in average 5.2 household members and Tirana 3.8.

Figure 1 shows the household income distribution of both samples. For further analysis we combined the groups of 150 to 800 Euro into the low income group, 801 to 1200 the middle income group and above 1200 Euro per month, we defined as high income groups. Concerning household income Tirana had almost double the share of low-income groups than Prishtina and a significantly lower share of middle- and high-income groups (Figure 1). On average, a household spent €299 for food per month, while 68% of respondents spent between €150 and €450 for food per month.

**Table 1:** Number and share of respondents by age group.

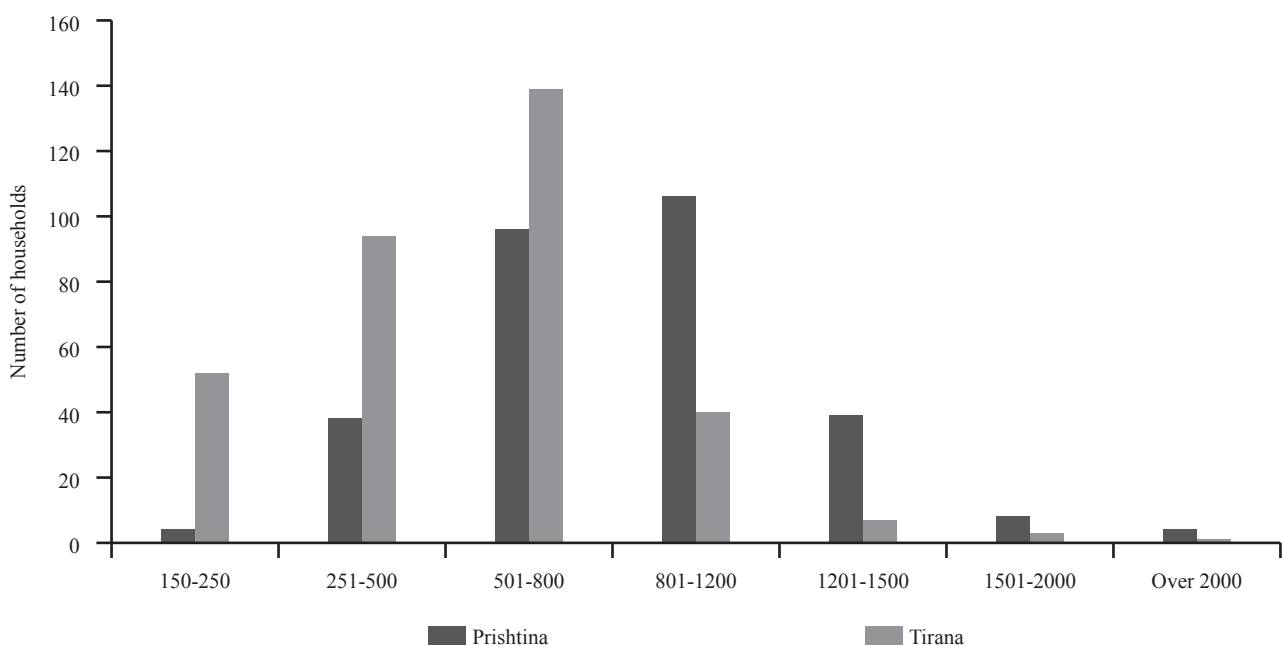
City	Age Groups				Total
	19-24	25-54	55-64	65>	
Prishtina	27	206	43	18	294
% within city	9.2%	70.1%	14.6%	6.1%	100.0%
Tirana	38	201	53	44	336
% within city	11.3%	59.8%	15.8%	13.1%	100.0%
Both cities	65	407	96	62	630
% within city	10%	65%	15%	10%	100%

Source: own composition

**Table 2:** Number and share of respondents by number of household members.

	Single	2 People	3 people	4 people	5 people or more	Total
Prishtina	3	11	23	64	194	295
% within city	1.0%	3.7%	7.8%	21.7%	65.8%	100.0%
Tirana	14	62	57	100	105	338
% within city	4.1%	18.3%	16.9%	29.6%	31.1%	100.0%
Total	17	73	80	164	299	633
% within city	3%	12%	13%	26%	47%	100%

Source: own composition



**Figure 1:** Household Income Groups for Prishtina and Tirana.

Source: own composition

## Perception of domestic cheese and milk safety and quality

We ran a series of Analysis of Variance (ANOVA) tests with selected socio-demographic variables (gender, age and education, household income) and the safety and quality perception scale (Bruner, 2011). Before doing so, however, we applied a Principal Component Analysis (PCA) to the scale to see if all items were loading on the same factor. The PCA showed that all items loaded on one factor, the Kaiser-Meyer-Olkin (KMO) value was 0.8, which is an excellent value for the factor loading. The communalities were all high, indicating that the extracted factor represented the variables well. Due to the fact that all variables were loading on one factor, we calculated a mean value over all variables, which we also tested later for significant differences between socio-demographic variables.

Our underlying assumption was that there was a difference in the perception of domestic cheese and milk with respect to socio-demographic variables. In order to test this, ANOVA was applied combined with post-hoc tests for multiple comparisons. In case of homogeneous variances, the Hochberg GT2 test was used (because the number of cases in the sub-samples were different), while in the case of no homogeneity, we applied the non-parametric Tamhane test.

We found *no significant differences between male and female consumers and between age groups* concerning the domestic origin of food and its safety. Neither gender agrees or disagrees that buying milk from farmers is safer compared to milk from the factory. We measured education with four different categories, which we combined into two groups of consumers, one with lower (basic and middle school) and one with higher education (high school and university) for further analysis. *No statistical difference was found between lower and more highly educated consumers* concerning quality and safety of domestic cheese and milk. Both groups perceive domestic cheese and milk as safer and of better quality when compared to imports. The only significant difference was for the statement “Imported cheese is of high quality” - lower educated consumers perceive imported cheese of inferior quality, whereas more highly educated

consumers are indifferent about it. There is neither agreement nor disagreement that buying cheese from the farm is safer than buying cheese from the factory.

Concerning income, all income groups see domestic cheese and milk as safer and of higher quality than imported cheese and milk. The ANOVA analysis showed significant differences between lower income groups versus middle and higher income groups in respect to quality and safety of domestic cheese. Higher income groups perceive domestic cheese as safer and of better quality (Table 3). All three of the income groups are indifferent as to whether the quality of imported cheese is better, and believe that buying milk from the farmer is safer than buying milk produced at the factory.

As a next step, we tested for statistically significant differences between Kosovar and Albanian consumers and how they perceived the quality of domestic cheese and milk by using the safety and quality scale from Bruner (2011). Our underlying assumption was that Kosovar and Albanian consumers perceived the quality and safety of domestic versus imported cheese/milk different. ANOVA showed that all statements were significantly different except for “Imported cheese is of high quality” (Table 4).

The mean values between the two consumer groups from Prishtina and Tirana show that Kosovar consumers perceive domestic dairy products over all items (except imported cheese) as being both safer and of higher quality than Albanians do. The mean values with lower and upper bounds for Tirana show that Albanian consumers are either indifferent or slightly positive about the quality of domestic cheese and milk.

In order to gain additional information about the perception of cheese bought at the supermarket or the traditional local shop, respondents were asked to agree or disagree with several statements on a seven-point scale (from strongly disagree = 1 to strongly agree = 7). ANOVA showed that differences between Kosovars and Albanians are highly significant (Table 5).

Kosovar respondents see the quality of cheese bought in the supermarket as being more critical than Albanians do. When asked to indicate their agreement to the same statements in respect to a local traditional store, the results were the same. Kosovars perceive the safety and quality of cheese bought at the local store to be more inferior than Albanians do.

**Table 3:** Consumer perceptions on safety and quality of imported cheese.

Domestic cheese is safer than imported cheese				
Indicator	Income household 3 groups	N	Subset for alpha = 0.05	
			1	2
Hochberg <sup>a,b</sup>	Low Income	428	3.6355	
	Middle Income	148	3.8041	3.8041
	High Income	64		4.0313
Domestic cheese is of higher quality than imported cheese				
Indicator	Income household 3 groups	N	Subset for alpha = 0.05	
			1	2
Hochberg <sup>a,b</sup>	Low Income	428	3.6495	
	Middle Income	148		4.0338
	High Income	64		4.1875

Note: Means for groups in homogeneous subsets are displayed.  
Source: own composition



**Table 4:** ANOVA results for differences between Kosovar and Albanian consumers.

Categories		Sum of Squares	df	Mean Square	F	Sig.
Mean domestic safety (all)	Between Groups	69.468	1	69.468	114.099	.000
	Within Groups	393.917	647	.609		
	Total	463.384	648			
I prefer to buy milk from farmer	Between Groups	56.323	1	56.323	25.417	.000
	Within Groups	1433.745	647	2.216		
	Total	1490.068	648			
Domestic cheese is safer than imported cheese	Between Groups	106.846	1	106.846	72.926	.000
	Within Groups	947.943	647	1.465		
	Total	1054.789	648			
Domestic milk is safer than imported milk	Between Groups	129.053	1	129.053	87.548	.000
	Within Groups	953.736	647	1.474		
	Total	1082.789	648			
Domestic cheese is of higher quality than imported	Between Groups	188.053	1	188.053	157.540	.000
	Within Groups	772.314	647	1.194		
	Total	960.367	648			
Domestic milk is of higher quality than imported	Between Groups	131.034	1	131.034	99.638	.000
	Within Groups	850.867	647	1.315		
	Total	981.901	648			
Imported cheese is of higher quality	Between Groups	.091	1	.091	.083	.773
	Within Groups	705.022	647	1.090		
	Total	705.112	648			
Buying milk from farmer is safer than buying milk produced in factory	Between Groups	18.335	1	18.335	9.734	.002
	Within Groups	1218.651	647	1.884		
	Total	1236.986	648			

Source: own composition

**Table 5:** ANOVA results on cheese bought at the supermarket.

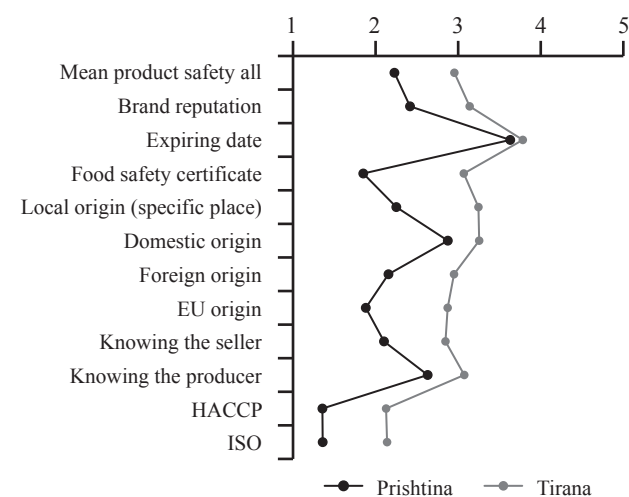
Categories		Sum of Squares	df	Mean Square	F	Sig.
The cheese I have bought today is not safe	Between Groups	1348.657	1	1348.657	951.625	.000
	Within Groups	763.879	539	1.417		
	Total	2112.536	540			
The cheese I have bought today will have a bad taste	Between Groups	2413.821	1	2413.821	1967.890	.000
	Within Groups	659.913	538	1.227		
	Total	3073.733	539			
The cheese I have bought today is of bad quality	Between Groups	1952.203	1	1952.203	1560.138	.000
	Within Groups	674.452	539	1.251		
	Total	2626.654	540			
The cheese I have bought today is not healthy	Between Groups	1422.858	1	1422.858	936.939	.000
	Within Groups	815.502	537	1.519		
	Total	2238.360	538			
The cheese I have bought today is not trustworthy	Between Groups	1280.770	1	1280.770	806.024	.000
	Within Groups	854.880	538	1.589		
	Total	2135.650	539			
The cheese I have bought today is too expensive	Between Groups	10.764	1	10.764	5.186	.023
	Within Groups	1118.825	539	2.076		
	Total	1129.590	540			

Source: own composition

## The frequency of use of food quality and safety information of Kosovars and Albanians

In order to understand which safety and quality cues consumers use frequently, we asked the consumers the following question: “If you want to know about safety of cheese you buy, how often do you check the following characteris-

tics?”. The 5 point semantic scale reached from 1 = never, 2 = occasionally (1-2 times per week), 3 frequently, 4 = often, to 5 = always. The underlying assumption is that a difference between Kosovar and Albanian consumers with respect to the use of food quality and safety information exists. ANOVA test showed significant differences for all items. Kosovars use food safety and quality cues less frequently than Albanians (see Figure 4).



**Figure 2:** The frequency of use of food quality and safety information.

Source: own composition

**Table 6:** Ranking of attributes based on frequency of use.

	Prishtina	Tirana
1	Expiring date	Expiring date
2	Domestic origin	Domestic origin
3	Knowing the producer	Local origin (specific place)
4	Brand reputation	Brand reputation
5	Local origin (specific place)	Knowing the producer
6	Foreign origin	Food safety certificate
7	Knowing the seller	Foreign origin
8	EU origin	EU origin
9	Food safety certificate	Knowing the seller
10	ISO	ISO
11	HACCP	HACCP

Source: own composition

**Table 7:** Results of ANOVA about frequency of use of quality information.

Categories		Sum of Squares	df	Mean Square	F	Sig.
How often do you check in which country a foodstuff has been produced	Between Groups	134.009	1	134.009	77.511	.000
	Within Groups	1118.601	647	1.729		
	Total	1252.610	648			
How often do you check in which region within Kosovo (Albania) the foodstuff has been produced (for domestic products)	Between Groups	.248	1	.248	.109	.742
	Within Groups	1472.714	646	2.280		
	Total	1472.961	647			
How often do you check, if a foodstuff is organic	Between Groups	247.301	1	247.301	141.329	.000
	Within Groups	1132.135	647	1.750		
	Total	1379.436	648			
How often do you check the name of the grower/manufacturer	Between Groups	5.890	1	5.890	2.447	.118
	Within Groups	1557.106	647	2.407		
	Total	1562.995	648			
How often do you check date of durability/best before date	Between Groups	17.428	1	17.428	22.803	.000
	Within Groups	494.498	647	.764		
	Total	511.926	648			
How often do you check, if the package is damaged	Between Groups	38.857	1	38.857	40.935	.000
	Within Groups	614.142	647	.949		
	Total	652.998	648			
How often do you check the list of ingredients	Between Groups	16.824	1	16.824	7.941	.005
	Within Groups	1370.717	647	2.119		
	Total	1387.541	648			

Source: own composition

For both samples the expiry date and domestic origin were the most frequent used attribute. Table 6 shows the ranking of attributes, starting with the most frequent used on top. In the last position, both samples reported that they at least use ISO and HACCP standards.

In an additional series of questions, we asked respondents how often they checked food quality related information, when shopping for food (Table 7). An ANOVA with these questions showed significant differences between Kosovars and Albanians, except for “How often do you check in which region within Kosovo (or Albania) the foodstuff has been produced” and how often do you check the name of the grower/manufacturer”.

We combined the respondents, who checked these attributes frequently (about half the times, or 3-4 times every week), often or always. It appears that Kosovars and Albanians check the best before date (date of durability) the most often, followed by damaged packaging. However, Kosovars check significantly more often in which country foodstuff has been produced. On the other hand, Albanians pay more attention to organic foodstuff (67% versus 24% of Kosovars). On the whole, more than two thirds of the respondents in both samples checked where their food came from (whether it was locally-produced or not).

We tested the same statements for differences between gender, age, education and income. Women check more

often than men the date of durability/best before date, if the package is damaged, if the foodstuff is organic and the list of ingredients (significant at all levels). Older (65+) consumers check less often in which country food has been produced, the name of the grower/manufacturer, if a package is damaged and the list of ingredients compared to the younger age groups. Higher educated consumers check more often all safety and quality information (except for organic foodstuff) than lower educated consumers. Low income groups check less often the country of origin, the region in which a product within Kosovo and Albania has been produced and the name of the grower/manufacturer.

We also asked respondents three additional questions. First, if they know about Global GAP (see Table 17) and if they know about the existence of the "Food and Veterinarian Agency (National Food Authority for Albania)". Third, if they buy food products labelled as PDO (Protected Denomination of Origin). The majority of respondents did not know about Global GAP (69% of Kosovars and 84% of Albanians didn't know about Global GAP). Chi-Square test for all three questions showed statistically significant differences. Knowledge about the Food and Veterinary Agency was more widespread: 78% of Kosovars and 86% of Albanians knew about the Food and Veterinary Agency. The vast majority of Kosovar consumers (96%) in Prishtina do not buy products labelled as PDO, compared to 77% of consumers in Tirana.

## Discussion and conclusions

Previous studies reported that gender and education had an influence on the awareness and perception of food safety issues (Nganje and Katibie 2003; Zhllima *et al.*, 2015). Female consumers and higher educated consumers pay more attention to food safety related information. Our study found similar results. Women and higher educated consumer groups check more often food safety and quality related information than men or lower educated groups. We found similar differences for younger versus older consumer groups and high versus low-income groups. Younger consumer groups and higher income groups use food safety and quality related information more often. This was observed for both cities in which the study took place.

Important quality cues mentioned in the literature are information on labels like expiry date, ingredients, brand names, food certificates and country of origin (Marchesini *et al.*, 2007). In our study Kosovars use food safety and quality cues less frequent than Albanians. Albanians use food certificates more often than Kosovars, but neither of them pays attention to HACCP or ISO standards, which is not surprising because HACCP and ISO standards are primarily used for business-to-business communication and have not been communicated to consumers. A ranking of the frequency of use showed that information about expiry date, domestic origin/local origin, knowing the producer or the brand name are the most frequent used food safety and quality cues for Kosovars and Albanians. Kosovar respondents also use information about organic food way less often than Albanian respondents. This may be an indicator for either a lack of organic food supply in Kosovar supermarkets or an

indicator for lower purchase power than in Albania, because organic food is generally more expensive than conventional food. There is also low awareness about GlobalGAP and food products with the EU label for Protected Denomination of Origin. In Kosovo, 95% of consumers are not buying PDO food products (versus 78% of Albanian respondents), which could be an indicator for that they don't know them. Despite this lack of knowledge about food safety standards and labels for geographical denomination, a majority of consumers in our samples knew about the Food and Veterinary Agency (76% of Kosovars and 86% of Albanians).

Several studies about WBCs report severe food safety problems in the food chains in Kosovo and Albania, especially in the dairy and meat sector (Gjeci *et al.*, 2015; Haas *et al.*, 2016; Imami *et al.*, 2011; Udovicki *et al.*, 2019; Zhllima *et al.*, 2015). Zhllima *et al.* (2015) reported that food safety is a major concern for local consumers in the region. There is evidently a lower level of food safety in the food chains in Kosovo and Albania and consumers are concerned about it, so one would expect that consumers in Kosovo and Albania would perceive domestic food products such as milk and cheese as inferior compared to imported products. We didn't observe this in our study. There were no statistically significant differences between socio-demographic variables, except higher income groups check the quality of domestic milk and dairy more than lower income groups. However, we observed statistically significant differences between Kosovar and Albanian consumers. Kosovar consumers perceive the quality of domestic cheese and milk better than Albanian consumers. Albanian consumers are either indifferent only slightly positive about the quality of domestic dairy products. Regarding the quality of cheese bought at supermarkets or local traditional stores, Kosovars were more critical than Albanians. In other words, Kosovars show more consumer patriotism for domestic milk and cheese than Albanians but at the same time they are less satisfied with the safety and quality of cheese offered at supermarkets and local stores.

Imami *et al.* (2013) reported that consumers prefer to buy food directly from producers as a strategy to ensure safety and quality. In our study, consumers from Prishtina show a statistically significant higher preference to buy milk from farmers than Albanian consumers but when asked if milk from farmers is safer than milk from the factory both samples were indifferent about it.

Our results might be useful for policymakers and food companies for two main reasons. First, communication and advertising strategies about domestic food safety and quality in Kosovo and Albania, either from policymakers or companies, could specifically address female consumers, and better educated consumers/higher income consumers. Those consumers show higher awareness and more frequent use of food safety and quality related information. Second, stakeholders could focus especially on lower educated / lower income consumers to reduce their information deficits about food safety and quality related information.

The high awareness about the national Food and Veterinary Agency shows how important it is to establish national food safety and quality organisations. For example, in the case of Austria, during EU accession, the government decided to establish an agricultural organisation, independent from the



Ministry of Agriculture, to be focused on food safety, quality and food marketing, the so-called AMA (Agricultural Market Austria). AMA was responsible to harmonise the legal framework for food production, food safety and marketing. AMA coordinates more than 40,000 food safety controls per year in Austria. It developed a nationwide quality and origin certificate, the AMA quality seal, which is one of the best-known food certificates in Austria nowadays. The establishment of such an organisation demonstrates how important it is to combine activities related to food safety and food quality with food marketing. It would be highly advisable for Kosovo and Albania to establish a similar organisation, especially with respect to the existing EU accession plans.

## Acknowledgements

This study was performed in the framework of the Project “HERAS – Higher Education, Research and Applied Science (Kosovo)”, funded by Austrian Development Cooperation and Republic of Kosovo. The project “HERAS – Higher Education, Research and Applied Science” contributes to the positive functioning of Higher Education and Research in Kosovo along the principles of the European Higher Education Area (EHEA) and the European Research Area (ERA) with the long-term objective of supporting the socio-economic development of the country. However, the content of this work and views expressed in this paper are the exclusive responsibility of the authors. The authors also want to acknowledge the valuable contributions of Dubravka Skunca from Union-Nikola Tesla University by providing insight into food safety situation in Serbia.

## References

- Ahmed, Z. U., Johnson, J. P., Yang, X., Fatt, C. K., Teng, H. S. and Boon, L.C. (2004): Does country of origin matter for low-involvement products? *International Marketing Review*, **21** (1), 102–120. <https://doi.org/10.1108/02651330410522925>
- Bhat, R.V. and Vasanthi, S. (2003): Mycotoxin food safety risk in developing countries. In: 2020 Focus 10: food safety in food security and food trade. IFPRI, Washington DC, USA.
- Bruner, G.C. (2011): *Marketing Scales Handbook. A Compilation of Multi-Item Measures for Consumer Behavior and Advertising Research*. 3rd Revise. Los Angeles, London, New Delhi, Singapore, Washington DC and Melbourne: Sage Publications Ltd.
- Eroglu, S. A. and Machleit, K.A. (1989): Effects of Individual and Product-specific Variables on Utilising Country of Origin as a Product Quality Cue. *International Marketing Review*, **6** (6), 27–45. <https://doi.org/https://doi.org/10.1108/EUM0000000001525>
- Gjeci, G., Bicoku, Y. and Imami, D. (2016): Awareness about food safety and animal health standards – the case of dairy cattle in Albania. *Bulgarian Journal of Agricultural Science*, **22** (2), 339–345.
- Haas, R., Canavari, M., Imami, D., Gjonbalaj, M., Gjokaj, E. and Zvyagintsev, D. (2016): Attitudes and preferences of Kosovar consumer segments toward quality attributes of milk and dairy products. *Journal of International Food and Agribusiness Marketing*, **28** (4), 407–426.
- Imami, D., Chan-Halbrecht, C., Quanguo, Z. and Zhllima, E. (2011): Conjoint analysis of consumer preferences for lamb meat in central and southwest urban Albania. *International Food and Agribusiness Management Review*, **14** (3), 111–126.
- Imami, D., Zhllima, E., Canavari, M. and Merkaj, E. (2013): Segmenting Albanian consumers according to olive oil quality perception and purchasing habits. *Agricultural Economics Review*, **14** (1), 97–112. <https://doi.org/10.22004/ag.econ.253540>
- Imami, D., Skreli, E., Zhllima, E., Canavari, M., Chan, C. and Cela, A. (2016a): Analysis of consumers’ preferences for typical local cheese in Albania applying conjoint analysis. *New Medit*, **15** (3), 49–55.
- Imami, D., Zhllima, E., Merkaj, E., Chan-Halbrecht, C. and Canavari, M. (2016b): Albanian Consumer Preferences for the use of Powder Milk in Cheese-Making: A Conjoint Choice Experiment. *Agricultural Economics Review*, **17** (1), 20–33. <https://doi.org/10.22004/ag.econ.262432>
- Marchesini, S., Hulyiyeti, H. and Regazzi, D. (2007): Literature review on the perception of agro-foods quality cues in the international environment. Presented on the 105th EAAE Seminar on “International Marketing and International Trade of Quality Food Products”, March 8-10, 2007, Bologna, Italy (pp. 729–738).
- Nganje, W.E. and Kaitibie, S. (2003): Food Safety Risk Perception and Consumer Choice of Specialty Meats. Department of Agribusiness and Applied Economics, Agricultural Experiment Station, North Dakota State University, USA.
- Smigic, N., Djekic, I., Martins, M.L., Rocha, A., Sidiropoulou, N. and Kalogianni, E.P. (2016): The level of food safety knowledge in food establishments in three European countries. *Food Control*, **63**, 187–194. <https://doi.org/10.1016/j.foodcont.2015.11.017>
- Srinivasan, S.S. and Till, B.D. (2002): Evaluation of search, experience and credence attributes: Role of brand name and product trial. *Journal of Product and Brand Management*, **11** (7), 417–431. <https://doi.org/10.1108/10610420210451616>
- Statistik Austria (2019): Austrian Household in 2018. Available at: [https://www.statistik.at/web\\_de/statistiken/menschen\\_und\\_gesellschaft/bevoelkerung/haushalte\\_familien\\_lebensformen/haushalte/index.html](https://www.statistik.at/web_de/statistiken/menschen_und_gesellschaft/bevoelkerung/haushalte_familien_lebensformen/haushalte/index.html) (Accessed on 17 September 2019)
- Tomasevic, I., Smigic, N., Djekic, I., Zaric, V., Tomic, N., Miciunovic, J. and Rajkovic, A. (2016): Evaluation of food safety management systems in Serbian dairy industry. *Mljekarstvo*, **66** (1), 48–58. <https://doi.org/10.15567/mljekarstvo.2016.0105>
- Udovicki, B., Djekic, I., Kalogianni, E.P. and Rajkovic, A. (2019): Exposure Assessment and Risk Characterization of Aflatoxin M1 Intake through Consumption of Milk and Yoghurt by Student Population in Serbia and Greece. *Toxins*, **11** (4), 1–11. <https://doi.org/10.3390/toxins11040205>
- Verçuni, A., Zhllima, E., Imami, D., Bijo, B., Hamiti, X., and Bicoku, Y. (2016): Analysis of Consumer Awareness and Perceptions about Food Safety in Tirana. Albania. *Albanian Journal of Agricultural Sciences*, **15** (1), 19–26.
- Wongprawmas, R., Canavari, M., Imami, D., Gjonbalaj, M. and Gjokaj, E. (2018): Attitudes and preferences of Kosovar consumer towards quality and origin of meat. *Studies in Agricultural Economics*, **120** (3), 126–133. <https://doi.org/10.7896/j.1802>
- Zhllima, E., Imami, D. and Canavari, M. (2015): Consumer perceptions of food safety risk: Evidence from a segmentation study in Albania. *Journal of Integrative Agriculture*, **14** (6), 1142–1152. [https://doi.org/10.1016/S2095-3119\(14\)60997-7](https://doi.org/10.1016/S2095-3119(14)60997-7)