Albanian Consumer Preferences for the use of Powder Milk in Cheese-Making: A Conjoint Choice Experiment

Drini Imami[1], Edvin Zhllima[2], Elvina Merkaj[3], Catherine Chan-Halbrendt[4], Maurizio Canavari[5]

1 *Dr., Corresponding author, Associated Professor, Faculty of Economics and Agribusiness, Agricultural University of Tirana, Koder-Kamez, Tirana, Albania and Affiliate Fellow at CERGE EI*
E-mail: dimami@ubt.edu.al

2 *Dr., Associated Professor, Faculty of Economics and Agribusiness, Agricultural University of Tirana, Koder-Kamez, Tirana, Albania and Affiliate Fellow at CERGE EI*
E-mail: ezhllima@ubt.edu.al

3 *Dr., Lecturer, Faculty of Economics and Agribusiness, Agricultural University of Tirana, Koder-Kamez, Tirana, Albania and Affiliate Fellow at CERGE EI*
E-mail: emerkaj@ubt.edu.al

4 *Dr., Professor, Department of Natural Resources and Environmental Management, University of Hawaii at Manoa, 1910 East-West Road, Sherman 104, Honolulu, Hawaii, 96822, U.S.A*
Email: chanhalb@hawaii.edu

5 *Dr., Associated Professor of Agricultural Economics and Appraisal, Alma Mater Studiorum-University of Bologna, Via Zamboni, 50-40126 Bologna, Italy.*
E-mail: maurizio.canavari@unibo.it

Abstract

This paper analyses consumer preferences for white cheese in Tirana, Albania, applying conjoint choice experiment. Consumer segments were identified based on preferences for selected product attributes, including price, origin, milk type and the use of powder (dry) milk to produce cheese. Results indicate that the importance of cheese attributes and preferences vary across consumer classes. The most important factor driving consumer preferences is the type of milk used for cheese-making, which is dominant in two of the four classes identified. All consumer classes prefer cheese made without powder milk but rather produced only with fresh raw milk. The use of milk powder is presumably perceived as a non-natural or non-traditional method of producing cheese. On the basis of these findings, food policy makers and law enforcement institutions could consider the introduction of specific cheese labelling rules that guarantee quality and transparency, ensuring complete information about production technology and raw materials, including also the use of dry milk.

***Key words*:** Consumer Preferences, Conjoint Choice Experiment, Latent Class Analysis, Cheese, Powder Milk, Albania

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Introduction

Cheese is the main dairy product and one of the main food items among Albanian households. Cheese consumption and production has increased considerably in recent years, vis-à-vis with the increase in the availability of raw milk and enhancement of local processing capacities. As demonstrated in Table 1, during the period 2000-2013, domestic cheese production increased by more than 1/2, while imports increased at much higher rate (more than doubled). The increased levels of imports can be attributed to two main factors affecting the domestic cheese market: 1) the low and inefficient production of domestic raw milk resulting from the farm structure that characterises Albanian agriculture (most cattle farms have 1-2 cows, and less than 2 % of the cattle farms own more than 5 cows (MoAFCP, 2012); 2) consumer preference for wider range of types of cheeses (supplied by imports) and particularly for cheese that meets quality and safety standards. On the other hand, no exports are recorded due to high dairy production costs, as well as compliance issues related to international safety standards.

A large portion of domestically produced cheese is manufactured using imported powder (dry) milk or a mix of (imported) powder milk and (domestic) fresh raw milk. Unfortunately, no statistics are available on the quantity of cheese produced utilising powder milk as a raw material. Most cheese in Albania is sold in bulk, not packaged and not labelled, thus written information about the source of the milk or the type of raw milk (powder or fresh) is not available to the consumer in most cases. Even in the case of labelled cheese, the use of powder milk is rarely stated, according to the best knowledge of the authors based on personal market observations.

Table 1: *Supply balance of cheese (ton)*

Indicators	**2000**	**2010**	**2011**	**2012**	**2013**
Production (ton)	8,404	13,527	12,340	12,980	13,386
Export	0	0	0	0	0
Import	428	1,167	1,636	1,408	1,188
Export/Import	0.0%	0.0%	0.0%	0.0%	0.0%
"Apparent Consumption"	8,832	14,694	13,976	14,388	14,574
Import penetration rate	4.8%	7.9%	11.7%	9.8%	8.2%
Import of powder (dry) milk					
USD	1,177,886	2,651,710	3,839,581	2,549,906	1,325,795
Metric Tons	1,125	933	1,405	978	323

Source: INSTAT (2016) for production data, UNSTAT (2014) for trade data.

Albania, as other countries of South-eastern Europe, has experienced important changes in the system of the government during transition - the move from centralized/planned economy to market-based economy has affected food production, consumption patterns and health system (Zhllima et al., 2012a). Currently in the country there are concerns about food safety and its enforcement by the state, which may cause consumers to distrust food safety, especially for livestock products, which are particularly exposed to food safety threats. Albania is facing serious problems with the national food safety control system in terms of legislation, institutional capacity, infrastructure,

control and enforcement, and related private investments, which affect real and perceived safety risks for consumers. The problems in the Agricultural Health and Food Safety System have been identified by several studies most notably in meat and milk products - food-borne diseases caused by microbiological contamination have been considered as a major public health concern (Vercuni et al., 2016). There have been claims about the undeclared use of powder milk as well as for the production and sales of contaminated milk in Albania, which have been reflected also in Albanian daily newspapers (Gazeta Dita, 2015; Gazeta Shqip, 2013). Generally, cheese produced using fresh milk is considered superior, while there are concerns about the type/quality of powder milk. On the other hand, there are serious problems also related to fresh raw milk too (e.g. microbiological contamination) in Albania. Most dairy cattle farmers have gaps in terms of food safety standards (Gjeci et al., 2016). Food safety and quality attributes are increasingly demanded by consumers, however the private sector is still not prepared to respond by developing its own mechanisms – alternative systems of safety and quality certifications are not widely diffused in the dairy sector in Albania (Vercuni et al, 2016). This study aims to assess consumer preferences about key cheese attributes with focus on the use of powder milk. As already highlighted above, there are concerns both for the use of powder milk on one hand, and the quality of fresh raw milk on the other hand, as well as about (lack of) accurate information about ingredients used for cheese making. Therefore, it is important to analyse Albanian consumer perceptions and preferences regarding the use of powder milk versus fresh raw milk for the production of cheese.
The study focuses on a certain cheese that in Albania is commonly referred to as "White cheese", and is similar in taste and appearance to the Greek "Feta" cheese[1]. White cheese is one of the two main types of cheese produced in Albania (GTZ, 2010) and is widely consumed with bread and combined with salads.

The aim is to group consumers according to their preferences for a set of cheese attributes including the use of powder milk in cheese production. Other attributes used in the choice experiment include: price, origin of the product (domestic vs. imported) and the type of milk (sheep, goat vs. cow). The analysis is performed applying a conjoint choice experiment approach (CCE).

Based on the results we provide marketing and policy recommendations for the sector's stakeholders, particularly for producers (dairy processors) and policy-makers. Understanding consumer preferences and behaviour provides important information that can assist in strategic decision-making by key stakeholders, such as agro industry (dairy processors), government bodies (Albanian Ministry of Agriculture[2], in the context of its policies), non-governmental organizations and international donors operating in the sector.

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[1] The European Commission registered the Greek "Feta" cheese as a Protected Designation of Origin (PDO). According to the Greek National Law 313025/1994 (Government Gazette Series B, No 8) Feta is a PDO cheese that is produced with fresh (raw or pasteurized) sheep/goat milk, processed within 48 hours after milking (Article 2). In Albania this type of cheese is not regulated and it can be produced also with reconstituted cow milk. Therefore, although it is common to define the Albanian product also as "feta-like" cheese, we use only the name "White cheese".

[2] Note: Until 2013, full name was Ministry of Agriculture, Food and Consumer Protection (MAFCP). After this year, following governmental and institutional changes, it is named Ministry of Agriculture and Rural Development and Water Administration (MARDWA)

Literature review

There is a rich literature of consumer studies on preference for cheese. Various papers utilizing conjoint choice experiments focus on a wide range of attributes in different countries. The attributes are divided according to their appearance, namely extrinsic and intrinsic. Most authors select price and origin as main attributes of milk. These two attributes are also included in our study. Price is commonly used in conjoint studies, being one of the most important product attributes. Origin in terms of country (eg. domestic versus import) but also in terms of specific regions within a country is often perceived as an indicator of quality. Credence attributes may include organic in addition to origin certification (eg. PDO/PGI) . Bernabéu et al. (2008) found that for Spanish consumers, origin was more important than type of cheese (organic versus conventional). Monjardino de Souza Monteiro and Raquel Ventura Lucas (2001) analyzed the urban Portuguese consumers' motivations and preferences when considering various attributes - recognition as PDO was found to be the most important attribute for the choice of traditional cheeses, followed by price, texture and unit of sale. Krystallis et al. (2004) exploring the positioning of feta cheese in the UK market, analysed the country of origin, brand name, type of milk used and price, as main attributes contributing to the cheese marketing mix. In Albania PDO is still a non-recognized attribute and efforts are made by the government to achieve the certification of Albania products under this quality designation scheme. A recent study (Imami et al., 2016) analyses Albanian consumer preferences for local typical cheeses, finding strong preference for cheese from specific regions of Albania.

While other intrinsic features such as type of milk are also considered as very important by many authors, Lefèvre (2011) analyzed the influence of the type of raw material used in cheese production, such as imported powder milk or fresh locally produced milk, in consumer preferences for cheese. It was found that Senegalese consumers were willing to pay a premium for fresh raw milk (rather than powdered milk). The author found also that higher incomes and lower family size are positively associated with the willingness to pay for fresh raw milk.

Other intrinsic and extrinsic features have been subject of different studies. Childs and Drake (2009) investigated the fat content, flavour, texture and price of Cheddar and Mozzarella cheeses. R*esults suggested that fat reduction is not very appealing and that most consumers are not willing to sacrifice flavour or texture for lower fat in cheeses.* While in a study of Irish farmhouse cheese, Murphy et al. (2004) selected a large number of attributes, such as flavour (strong or mild), texture (hard or soft), price, nutritional information (present on the label or not), pasteurization (pasteurized or raw), packaging (waxed wheel, cling-film wedge, or vacuum packed wedge) and colour of the cheese (red or white), to analyse consumer preference. Majority of consumers preferred a strong flavour with hard texture cheese, with white colour, made with pasteurized milk, a wax packaged wheel, accompanied with nutritional information.

Another comparative study in the Balkan countries (Giraud et al., 2013) analysed origin, scale of production (on-farm processed, small dairy, factory scale), price (3 levels equally spaced) and packaging (sold loose, on preferred weight or pre-packed). There were identified four clusters of consumers: one focused more on the local origin; one oriented more toward the scale of production (preference for on-farm and small dairy); the third price aware and the fourth preferring high prices (as a proxy for quality)

and industrial products. Previous study on Albanian consumer preferences for other food products found that high prices serve as proxy for high quality (Chan-Halbrendt et al., 2010).

Table 2 below summarizes the information according to attributes and main levels used in various studies.

***Table 2**: Attributes and level used by other studies*

Attributes	Level	Authors
Price	Symmetric or asymmetric (depending by market circumstances)	Bernabéu et al. (2008); Monjardino de Souza Monteiro and Raquel Ventura Lucas (2001); Gath and Alvensleben (1998); Childs and Drake (2009); Krystallis et al. (2004); Murphy et al. (2004); Giraud et al. (2013).
Origin	Imported vs. local	Hassan and Monier-Dilham (2006); Bernabéu et al. (2008); Lefèvre (2011); Giraud et al. (2013).
Texture	Hard vs. soft	Monjardino de Souza Monteiro and Raquel Ventura Lucas (2001); Childs and Drake (2009); Murphy et al. (2004).
Scale of production	On-farm processed, small dairy, factory scale	Giraud et al. 2013.
Brand	Names	Gath and Alvensleben (1998); Krystallis et al. (2004).
Taste and Flavour	Strong vs. mild	Childs and Drake (2009); Murphy et al. (2004).
Packaging	Waxed wheel, cling-film wedge, vs. vacuum packed wedge sold loose, preferred weight vs. pre-packed	Murphy et al. (2004).
Unit of sale size	Size	Monjardino de Souza Monteiro and Raquel Ventura Lucas (2001).
Labelling	Labelled versus not-labelled	Lahteenmaki et al. 2002.
Type of milk	Cattle or small ruminants, fresh vs. dry (powder)	Santos and Ribeiro (2005); Krystallis et al. (2004); Lefevre (2011).
Organic PDO	Organic, PDO vs. conventional cheese	Bernabéu et al. (2008); Monjardino de Souza Monteiro and Raquel Ventura Lucas (2001); Pilone et al. (2015).
Fat content	High vs. low	Childs and Drake (2009).

Data and methods

Sampling

The survey consisted of face-to-face interviews, administered on a sample of consumers in the urban area of Tirana, the largest urban area and market in Albania, during

November 2012. Due to budget and time constraints, the target sample size was set to 220 respondents, but 20 questionnaires were excluded from the analysis due to incomplete responses in the choice experiment section. The locations were selected based on previously conducted focus group, where two different and highly frequented locations, with many different types of consumers, were suggested for the study. In the selected sites, interviews were conducted by trained students supervised by the authors of this study. The participants were recruited based on a mall-intercept sampling procedure. People were approached randomly, and subsequent to the completion of each face-to-face interview, interviewers approached the next closest passer-by.

Latent Class Conjoint-Choice Experiment

The latent class Conjoint Choice Experiment (CCE) was conducted to analyse consumer preferences, including consumer clustering/segmentation, and, to assess preferences for each of the identified consumer classes/groups, considering the relative importance of various Albanian cheese attributes. CCE was first introduced by Luce and Tukey (1964), and was further adjusted by several theoretical and empirical applications, including consumer preferences and market studies. An early literature synthesis of Green and Srinivasan (1978) indicates that conjoint measurement was practiced by mathematical psychologist investigating "*models and techniques that emphasize the transformation of subjective responses into estimated parameters*". Lancaster (1966) provided the theoretical basis for current consumer behaviour approaches and the development of the conjoint analysis as a consumer research tool through the assumption that the utility of a product is based on mix of attributes, rather than the good itself. Later on in the 1980s, CCE was widely utilised in market research. McFadden's Random Utility Theory (McFadden, 1974), and the later empirical research on discrete choice models, provided powerful instruments to analyse consumer behaviour in a manner consistent with economic theory (Louviere et al., 2010). Using the conjoint choice method in combination with Latent Class Analysis (LCA) for data analysis is an improvement on the traditional (i.e. one class) aggregated model analysis, as it accounts for heterogeneity among respondents that is not distributed according to a theoretical distribution form, but that is differentiated among a finite number of groups.

According to common market research principles, consumer preferences are formed by both extrinsic elements (labelling, price, origin, brands, etc.) and intrinsic elements (colour, flavour, texture, etc.). CCE is in line with and is based on the assumption that goods can be described by their characteristics, also known as attributes. Latent Class Analysis enables the grouping of consumers by their preferences for a given set of attributes (and attribute levels which are described below in this paper) and the assessment of preferences for each of the identified consumer group/class. This information is potentially useful to the industry marketing managers to identify and target consumer segments with their products. In Albania, CCE has been widely used to analyse consumer food behaviour (Zhllima et al., 2012b; Skreli and Imami, 2012; Imami et al., 2011; Chan-Halbrendt et al., 2010). This approach has been applied in cheese preference studies in other countries, such as Portugal (Monjardino de Souza Monteiro and Raquel Ventura Lucas, 2001; Kupiec and Revell 1998), Spain (Bernabéu et al, 2008), the UK (Krystallis et al, 2004), and in other Western Balkan countries (Giraud et al, 2013).

Conjoint Choice Experiment was designed using the following procedure described:

1. **Selection of attributes** based on the literature review and on one focus group, composed of one food technologist, one food marketing expert and several consumers. There were selected 4 attributes, namely price, origin, type of milk and use of powder milk. Other attributes such as use of PDO/PGI, local origin, or fat content were not included either because they were considered as less important or because they were subject of other studies in Albania – preference for typical local cheese was analyzed by Imami et al. (2016) and Kokthi et al. (2014).
2. **Definition of attribute levels** determined by the literature review, focus group and market observations. Levels assigned for each attribute as follows: price (400, 600, 800 and 1000 ALL/Kg), origin (domestic versus import), type of milk (cow, goat or sheep), and for the use of powder milk (cheese produced with powder milk versus without powder milk). Table 3 summarizes the attributes and levels for each attribute.

***Table 3**: Cheese attributes and their levels*

Attributes	**Levels**			
Price (ALL/kg)	400	600	800	1000
Type of milk	Sheep	Goat	Cow	
Origin	Domestic	Imported		
Use of powder milk	With powder milk	Without powder milk		

3. **Selection of alternatives (product profiles)**. Product profiles were constructed by selecting one level from each product attribute and with cross-combinations. Using full factorial design, would generate 48 (4*3*2*2) possible product profiles, far too many for the interviewed consumers to feasibly evaluate. A fractional factorial design was used to reduce the number of possible combinations, by combining attribute levels to generate well differentiated product profiles that reduce respondent fatigue, but without losing important information that is important in model estimation. In previous consumer preference studies (see Zhllima et al., 2012b; Chan-Halbrendt et al., 2010; Imami et al., 2011), the most commonly used method of constructing fractional factorial design in conjoint measurement is the orthogonal array. Orthogonal arrays build on Graeco-Latin squares by developing highly fractionated designs, in which the scenario profiles are selected so that the independent contributions of all main effects are balanced, assuming negligible interactions (Green and Wind, 1975).
4. **Construction of choice sets**. The identified profiles were paired and grouped into choice tasks, and subsequently presented to respondents. Using software from Sawtooth, Inc., randomly separated profile pairs of 7 sets with 12 pairs each, were generated from all possible profiles in the chosen orthogonal fractional factorial design (Johnson and Orme, 2003). A respondent was presented only one of the 7 sets and was required to evaluate the 12 profile pairs; ensuring the duration of the survey did not adversely affect respondent responses.
5. **Questionnaire design**. For each of the 7 versions of the survey questionnaire, two parts were presented. The first section consisted of choosing the preferred profile for each of the 12 choice tasks, while the second consisted of additional questions that

included the socio-demographic details of each respondent. A sample choice set is provided in Table 4, which illustrates one product profile scenario.

6. **Measurement of preferences through face-to-face interviews**. Each respondent was asked to choose 1 out of 3 product profiles plus the "none-of-them" option.

***Table 4**: Examples of Cheese Profile Scenarios*

Attribute	Levels			
Price (ALL/kg)	400	600	800	1,000
Origin	Domestic	Domestic	Import	Domestic
Type of milk	Goat	Sheep	Cow	Goat
Use of powder (dry) milk	With powder milk	Without powder milk	With powder milk	Without powder milk

Sample characteristics

Male and older consumers are slightly over-represented in the sample in comparison to Tirana demographics (Table 5). This can be attributed to the fact that shopping is commonly performed by males and elders in Albanian households (Imami et al., 2011; Skreli and Imami, 2012).

***Table 5**: Socio demographic Comparison of Survey Respondents with Tirana's Population*

Indicator		Survey respondents	Tirana population
Gender	Male	53.0%	50.1%
	Female	47.0%	49.9%
Age	18-24	19%	20.6%
	31-35	7.5%	10.7%
	36-40	12.5%	11.4%
	41-45	9.0%	11.8%
	46-50	14.5%	10.5%
	51-55	13.0%	8.6%
	56-60	8.5%	6.7%
	61-64	7.0%	6.5%
	65 and up	9.0%	13.3%

Source: Field Survey (sample statistics) and INSTAT (Tirana population statistics)

Preference-based segmentation

The first step of the analysis was to determine the optimum number of distinct classes for the model. Consistent Akaike Information Criterion (CAIC) is used to determine the best model. Scholars like Sclove (1987), Yang (2006), Dean and Raftery (2010) suggest that in general the BIC criteria tend to outperform other IC statistics.

However, as argued by Nylund et al. (2007), CAIC and BIC give the same result when identifying the right number of classes for the sample size of 200, for both categorical and continuous outcomes, except for the 10-item, complex structure, which is not our case. According to Bozdogan (1987), smaller values for CAIC and larger values of Chi-square are preferred. Several combinations with a number of consumer classes varying from 2 to 6 were obtained. The 4-class model was chosen in this study, as after shifting from the 4th to the 5th class, the lowest relative change of the Chi-square statistics was estimated (Table 6).

Table 6: *Summary of best replications*

Groups	Repli-cation	Pct Cert	CAIC	Δ Caic	Chi Sq	Δ chi sq	Rel Chi Sq	Δ Rel Chi Sq
2	2	18.55	5516.27		1234.56		112.23	
3	2	22.76	5289.31	-4.1%	1514.22	22.7%	89.07	-20.6%
4	1	25.91	5131.83	-3.0%	1724.4	13.9%	74.97	-15.8%
5	2	30.08	4907.01	-4.4%	2001.92	16.1%	69.03	-7.9%
6	3	33.1	4759.36	-3.0%	2202.27	10.0%	62.92	-8.9%

Source: Field Survey

The 4-class model generates two large classes, which when combined include up 70% of the market segments, while the other two classes cover the remaining segments. Considering responses and consumer trends in Albania, the 4-class model is the best grouping for this data set. Table 7 shows the class-models according to the class structuring.

***Table** 7: Models by number and size of classes*

Model by class number	Estimated group size					
2-Class Model	13.80%	86.20%				
3-Class Model	62.20%	14.40%	23.40%			
4-Class Model	37.50%	32.60%	13.90%	16.00%		
5-Class Model	11.70%	10.70%	21.20%	41.70%	14.60%	
6-Class Model	11.10%	11.00%	11.70%	8.00%	20.00%	38.20%

Source: Field Survey

Results

Consumers within the same class are assumed to share the same preferences; consequently each class can be viewed as a separate market segment from a marketing policy perspective. The results in Table 8 show the estimated parameters, their signs, and significance level for each class. The majority of respondents seems to be ethno-oriented in cheese consumption, with a demand inversely related to price (except one class for which this coefficient is not significantly different from zero), with a strong preference

for cheese without powder milk, and, an orientation towards goat cheese rather than sheep and cow cheese.

Class 1 named "fluid-milk cheese lovers" is the largest consumer class, representing 37.5 % of the sample. For this class, the most important characteristic of the cheese is the use of milk powder. This class prefers a cheese without milk powder. Origin for this class of respondents is the second most important attribute – domestic cheese is preferred over the imported cheese. Price is considered the third most important attribute, and as expected, with all other parameters being equal, cheaper cheese is preferred. Type of milk is by far the least important attribute when compared to the other attributes – there are no significant preference stated for any of the milk types.

Class 2 named the "the price-conscious", is the second largest consumer class, representing 32.6 % of the sample. For this consumer class, price is the most important attribute as the lower price is the main motivating factor when purchasing cheese. The second most important attribute is type of milk, where goat milk is preferred over sheep and cow milk. Origin is the third most relevant attribute. Similar to the "fluid-milk cheese lovers" class, domestic cheese is preferred over the imported counterpart. Also in line with "fluid-milk cheese lovers", consumers in this class prefer cheese without powder milk, although this attribute has a much lower importance when compared to the other elements.

Class 3 or "cow-milk cheap cheese lovers" represents almost 14 % of the sample. For "cow-milk cheap cheese lovers", the type of milk is the most important attribute and

***Table 8**: Estimated parameters, relative importance of attributes and size of each of the four classes*

Attributes	Levels	Class 1	Class 2	Class 3	Class 4
Size (%)		37.5%	32.6%	13.9%	16%
Attribute importance (%)					
Price		16%	49%	18%	14%
Type of milk		5%	29%	54%	57%
Origin		19%	15%	16%	22%
Use of powder milk		60%	7%	12%	7%
Estimated parameters					
Price		-0.247**	-0.693**	-0.441**	0.117
Type of Milk	Sheep	0.062	-0.260**	-0.345*	0.845**
	Goat	0.091	0.75**	-1.778**	-0.216
	Cow	-0.153	-0.491**	2.124**	-0.629**
Origin	Domestic	0.430**	0.327**	0.590**	0.286**
	Import	-0.430**	-0.327**	-0.590**	-0.286**
Use of powder milk	With powder milk	-1.380**	-0.148**	-0.425**	-0.093
	Without powder milk	1.380**	0.148**	0.425**	0.093

** Significant at 1 %

Source: Field Survey

cow milk is preferred over goat and sheep milk. Price is the second most important attribute. The third most important attribute is origin. Similar to the other two classes, the respondents are oriented toward the domestic cheese. As in the other classes, consumers in this class prefer cheese without powder milk, but this attribute was assigned a much lower importance when compared to the other attributes.

Class 4 named "sheep-milk cheese lovers" represents almost 16 % of the sample. For "sheep-milk cheese lovers", similar to "cow-milk cheap cheese lovers", the type of milk is the most important attribute; however, in contrast to other consumer classes, sheep milk cheese is preferred over goat and cow milk cheese. Origin is the second most important attribute, with domestic cheese being preferred over imported cheese. Other attributes were not deemed significant.

Table 8 summarizes the estimated parameters, relative importance of attributes and size of each of the identified classes.

Conclusions and recommendations

This paper provides an in-depth understanding of the Albanian urban consumer preferences for cheese attributes such as price, origin, milk type and acceptance of milk powder additives to cheese utilizing a Conjoint Choice Experiment aiming to segment the consumer sample group based on preferences for specific cheese attributes.

The importance of cheese attributes and preferences vary across consumer classes. The analysis enabled an identification of consumer groups according to their preferences, indicating potential market segments that can be targeted by producers or traders. The most important factor is the type of milk used, which is dominant in two of the four classes. Preference for the type of milk varies by consumer class. However, taking into consideration the dimension of the classes, it seems that milk from small ruminants, and especially goat milk, is mostly preferred among respondents.

There is an overall preference for domestic cheese over the imported counterpart for identified consumer groups. This is congruent with previous consumer surveys for other agro-food products in Albania, such as lamb meat (Imami et al, 2011), and apple (Skreli and Imami, 2012). This finding is in line with previous studies conducted on consumer preferences for cheese in the Western Balkans (Giraud et al, 2013), or South Western European consumers (Bernabéu et al, 2008). Albanian consumers seem to be strongly tied to the taste of white cheese produced by local producers and it is perceived as more appropriate (in terms of price also) to consume this type of cheese, rather than imported cheese of the same production characteristics. This could be coined as ethno-centric consumption.

As expected, all consumer classes prefer cheese without powder (dry) milk. The use of powder milk is probably perceived as a non-natural or non-traditional way of producing cheese. This is congruent with findings reported by Lefèvre (2011) in a consumer study carried out in the capital of Senegal, highlighting preferences for cheese produced using local milk rather than cheese based on imported milk powder. Since most consumers show a clear preference for powder-milk-free cheese, the government also could intervene by implementing mandatory labelling of cheese, including information about type of milk used, to increase the product transparency. Furthermore, any effort for territorial linked certification (eg. PDO/PGI) of cheese would imply use of fresh local milk only.

The results of this study provide useful information for Albanian cheese producers and policy makers. Food policy makers and law enforcement institutions should ensure labelling of cheese, providing complete information on production technology and raw inputs, including also the use of powder milk. Moreover, labelling information should be guaranteed and reliable to earn the consumer trust. Marketing managers should take into consideration the orientation of the Albanian consumers toward quality and transparency. Trust in the (private and publicly enforced) food labels containing information about food (cheese) ingredients is very important – otherwise, despite the clear preference for the powder-milk-free cheese, consumers may not be inclined towards paying a significantly high premium.

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