

GENERATION Z'S WILLINGNESS TO PAY FOR DOMESTIC AND ORGANIC MILK: A DISCRETE CHOICE EXPERIMENT IN SERBIA

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Abstract. The Serbian milk market has been shaken by several events, such as aflatoxin contamination scandals, dubious origin labelling practices by dairy processors and farmer protests due to unfavourable market position. In addition, as a European Union (EU) candidate member state, Serbia is striving to meet EU CAP organic production targets, but the share of organic milk production remains negligible. Improving understanding of milk consumer preferences is thus valuable for informing policymakers and industry stakeholders. The purpose of this paper is to evaluate the willingness to pay for Ultra High Temperature (UHT) milk attributes among Serbian Generation Z consumers. An online survey with a discrete choice experiment has been conducted with 189 University Students. The data was analysed using a random parameter logit model and latent class analysis. Random parameter logit model results suggest a stronger willingness to pay for “100% domestic milk” than for “organic” UHT milk, while “high-fat (2.8%)” is the most preferred by the sampled consumers. The results of latent class analysis indicate that two distinct, and roughly equally sized consumer segments can be identified, namely label-driven consumers and fat content-driven consumers, suggesting that UHT milk with credence attributes such as “100% domestic milk” and “Organic” label would have a place in the Serbian market.

Keywords: *country of origin, organic food, consumer behaviour, willingness to pay, discrete choice experiment*

Introduction

Although Serbia is self-sufficient in milk production (Brankov et al., 2021; Brankov and Matkovski, 2022), according to FAO data (FAOSTAT, 2024), less than 1% of European milk production is concentrated in Serbia, and there is also a downward trend in production. The Serbian dairy sector is not competitive on the world market, despite high support from domestic agricultural policy (SEDEDEV, 2017), and unfavorable trends in export competitiveness are also observed in most countries of the CEFTA region (Birovljev et al., 2015; SEDEDEV, 2017). Recently, the Serbian milk market has faced numerous problems (Milić et al., 2023); In 2022, there were disruptions in the domestic milk supply, which were compensated by increased imports from the European Union (EU), a ban on exports from Serbia was introduced and maximum retail prices for some dairy products were set; With an increase in imports, cases of inappropriate origin labelling, where imported milk was marketed with a front-of-the-pack label designated for domestic products have been marked; In 2023, dairy farmers organized several protests demanding a ban on milk imports and greater support from the state; all this has put the sustainability of milk production in Serbia in question.

Organic milk production in the Republic of Serbia has been present since 2013 on only one farm in Vojvodina, from which milk is collected and used for further processing into organic dairy products (Smigic et al., 2017), although this type of production is supported by the agricultural policy more than conventional production (Milovanović, 2022). In recent years, consumer interest in the consumption of organic milk has increased, mainly due to the favourable content of fatty acids, which have a significant positive effect on human health (Popović-Vranješ et al., 2011), but the relative prices of organic milk compared to conventional milk vary between 135 and 150% (Tomaš et al., 2019).

According to Zhang et al. (2020), awareness of the country-of-origin (COO) impact on consumer behaviour is crucial for marketing managers in the food industry. The authors state that COO labels are important because they signal the safety and quality of perishable dairy products. Moreover, awareness of innovative and sustainable practices is crucial for manufacturers to meet market needs and achieve business profitability. Therefore, organically produced food is as important for the environment and the local economy as it is for the modern consumer (Tigan et al., 2021).

In terms of future promotional strategies, food marketers need to explore which consumer segments are willing to buy domestic and organic products (Rana and Paul, 2017). Previous research on the segment that prefers organic food in Serbia shows that they are predominantly women from the professional class, who are most often married and have children (Grubor and Djokic, 2016). In addition, the same research shows that this consumer profile has a strong emphasis on the importance of diet for health, and a large number of them have experience with an illness of a close person and believe that diet is a good prevention. However, attracting consumers' attention nowadays is increasingly more difficult due to their progressively sophisticated, informed, and impatient nature. This nature is particularly characteristic of Generation Z (Gen Z) consumers. As Gen Z comprises individuals born in the late 1990s and the early 2010s, these consumers will be the heads of households in the near future. Most of them are moving out of their parents' homes and at the same time developing new purchasing habits, which offers opportunities for the development of sustainable consumption (Kymäläinen et al., 2021). According to Nguyen and Vo (2023), it is predicted that Gen Z will make up a third of the world's working age population by the year 2025. Therefore, the prospects for a more sustainable future could be estimated by studying university students in terms of sustainable food consumption behaviour (Kamenidou et al., 2019).

Most studies on willingness-to-pay (WTP) for domestic and organic milk have focused on Generation Y/the Millennials, leaving gaps in the literature on the behaviour of Gen Z consumers. A research gap has been specifically identified in the domestic literature of the Republic of Serbia. In addition, organisations should constantly anticipate future market trends, i.e., trends that will be set by Gen Z as the head of the household. Therefore, the main focus of this research is to estimate the WTP for domestic and organic milk among Serbian Gen Z consumers. According to Katt and Meixner (2020), WTP refers to the highest price a buyer is willing to pay for a certain quantity of goods or services. Miller et al. (2011) state that WTP estimation is a powerful tool for informing product positioning among competitors, market segmentation, and optimising product pricing policy, as misestimating maximums (price ceilings) and minimums (price floors) may affect in the loss of potential consumers. To obtain WTP estimates for milk attributes, including domestic and organic milk, an online study employing a discrete choice experiment (DCE) was conducted with Serbian Gen Z milk consumers (N=189).

Based on the research objectives and literature review, the following hypotheses were formulated:

- H₁: The label "100% domestic milk" has a positive and statistically significant effect on the utility of Serbian Gen Z milk consumers.
- H₂: The label "Organic" milk has a positive and statistically significant effect on the utility of Serbian Gen Z milk consumers.
- H₃: The label "100% domestic milk" has a stronger positive effect on the utility of Serbian Gen Z milk consumers than the label "Organic".

The paper starts with an introductory chapter that provides a detailed explanation of the topic, the problem, the objective and the research contribution. The second chapter provides an overview of the relevant literature to support the theoretical study of the topic. The following chapters focus on the empirical research, including the research sample, the data collection process, and the statistical methods. The final chapter presents the research findings, limitations, and recommendations for further research.

Literature review

It is important for marketers to understand how consumers perceive food products in order to meet market demands, especially as supply becomes more diverse while consumer interest in domestic and organic products is increasing (Schleenbecker and Hamm, 2013). Consumers typically recognise labels like "Made in" or "Manufactured in", which indicate the country in which a product was produced. While the term COO may be difficult to define, it is often known in marketing as how consumers perceive the product based on the country where it was manufactured (Tjandra et al., 2015). The impact of the COO varies depending on the type of the product, as noted by Drozdenko and Jensen (2009). In addition, Nagy et al. (2022) found that the credibility of food is significantly influenced by its place of origin. Consumers often choose to buy local food due to support for their country's economy and workforce, as well as their sense of patriotism. This is known as ethnocentrism, and it involves choosing domestic products over foreign ones (Fernández-Ferrín et al., 2018). Besides, consumers may choose domestic milk because the COO is especially important for perishable and fresh products due to safety and health concerns (Claret et al., 2012). The importance of the COO can also be explained by its ability to indicate authenticity and market recognition, which influences how consumers perceive the quality of a product ("Russian vodka", "Greek yoghurt", etc.). Consumers not only want their food to be safe, but they also value its taste, nutritional content, and brand trustworthiness (Yang et al., 2021). We therefore propose the following hypothesis:

H₁: The label "100% domestic milk" has a positive and statistically significant effect on the utility of Serbian Gen Z milk consumers.

The academic community is particularly interested in exploring the drivers of the growing demand for organic products (Kushwah et al., 2019). The term "organic" refers to products that are produced in a more ecological manne, while also taking into account the soil protection and animal welfare (Scalco et al., 2017). Organic food consumption is considered more sustainable because it is produced using approved methods that protect natural resources and use only approved substances (Massey et al., 2018). Environmental and health reasons are the main motivations for consuming organic food (Magnusson et al., 2001). Accordingly, Vega-Muñoz et al. (2022) found that health-related factors are

crucial, especially for young consumers. However, Lillywhite et al. (2013) found that food taste follows health and safety motives. In addition, Aertsens et al. (2009) showed that most consumers of organic food find it tastier than conventional food. Research on the organic food market in the Republic of Serbia has been increasing recently. From a consumption point of view, the papers mainly focus on the factors that influence the decision to buy an organic product. Milić et al. (2022) point out that in order to increase consumption and enable further development of the organic food market, it is necessary to clearly emphasise the positive characteristics of organic products. Therefore, we propose the following hypothesis:

H₂: Label "Organic Milk" has a positive and statistically significant effect on the utility of Serbian Gen Z milk consumers.

On the other hand, organic products have certain disadvantages, including a higher price compared to conventional alternatives (Katt and Meixner, 2020). Radojević et al. (2021) showed that price is an important factor in purchasing organic food, indicating that the socio-economic characteristics of consumers are still important in the Republic of Serbia. High prices combined with lower purchasing power may discourage demand for organic products and negatively influence consumer attitudes in the long run (Rana and Paul, 2017). Therefore, it is important to understand consumers' WTP for organic food and the factors that shape it. While the term "organic" has a positive connotation for consumers, many are not knowledgeable about the characteristics of organic products or how to identify them on the shelf. In this regard, labels and certificates can facilitate product recognition by consumers (Massey et al., 2018). Končar et al. (2019) showed that higher investments in promotion and packaging are needed to differentiate organic from conventional food in Serbia. Raising awareness plays a key role in encouraging consumer purchases (Lazaroiu et al., 2019). It is fundamental for both companies and researchers to know how much consumers are willing to pay for products with these labels, as it helps to quantify their value (Schmidt and Bijmolt, 2020). In practical terms, WTP information can help organic food producers and retailers to carefully consider the optimal price. WTP is particularly interesting in the case of undergraduate students, who are in the process of forming their food consumption habits while living away from home for the first time (Stearns and Rabinowitz, 2021).

Students, i.e. members of Gen Z, will have a significant influence on economic, political, and societal changes, including the organisation of food systems, through their purchasing behaviour (Aydemir et al., 2023). Gen Z, also known as post-millennials, therefore represents a promising marketing segment for sustainable products (Su et al., 2019). This generation has a strong sense of social responsibility and knowledge about sustainable living due to their early exposure to these topics (Vehapi and Mitic, 2021). They seek consumer goods that reflect their values, which can be expressed in their food choices. However, Vehapi and Mitic (2021) found that the purchase of organic food products in the Republic of Serbia is primarily motivated by post-millennials' concerns about product quality and their health. These findings differ from research conducted in developed countries, where members of Gen Z are more interested in ecological issues, sustainable consumption, and animal welfare. According to Husic-Mehmedovic et al. (2017), food consumption can be a powerful expression of self-identity. On the other hand, Vehapi and Mitic (2021) found that high prices, lack of information, and limited availability are the main barriers to purchasing organic food among Gen Z consumers in the Republic of Serbia. However, digital literacy enables Gen Z to make more informed,

pragmatic, and analytical decisions compared to previous generations (Grigoreva et al., 2021). Based on the above and the low availability of organic milk in Serbian supermarkets, we expect the following:

H₃: The label "100% domestic milk" has a stronger positive effect on the utility of Serbian Gen Z milk consumers than the label "Organic".

These characteristics make a compelling case for further research into the attitudes of this marketing segment towards domestically produced and organic milk using a DCE. DCE is a quantitative method for measuring consumer preferences by having a sample of consumers who rationally choose products and services with varying attribute levels (Pearce et al., 2021). One of the advantages of this method is that the survey resembles real-life decision-making (Kamphuis et al., 2015).

Materials and methods

Theoretical framework

Microeconomic models, which often focus on utility maximisation, are based on Lancaster (1966), who shifts the focus to consumers who derive utility from the attributes of a good rather than from the good itself. In this context, consumption is seen as a process in which goods are transformed into inputs, and the resulting outputs are perceived as collections of attributes. This perspective allows for a nuanced understanding of preferences based on specific attributes. McFadden (1974) extends this theory with statistical models based on random utility theory, quantifying consumers' probabilities of choosing goods through DCE. DCEs, which are widely used in applied economics, provide insights into consumer decision-making and implications for product design and marketing.

In general terms, the utility (U) of an individual n for an alternative j consists of an observable element (V) and a stochastic, random element (ε):

$$U_{nj} = V_{nj} + \varepsilon_{nj} \quad (\text{Eq.1})$$

The introduction of the random element (ε) categorises the problem as strictly stochastic, precluding a full understanding of individual preferences and requiring the choice to be expressed as a probability. An alternative approach to conveying the utility of alternative j is to represent it as a linear combination of the observed attributes $x' \in \{x_1, x_2, \dots, x_n\}$ with corresponding parameter estimates $\beta \in \{\beta_1, \beta_2, \dots, \beta_n\}$:

$$U_{nj} = x'_{nj}\beta + \varepsilon_{nj}, j = 1, 2, \dots, J \quad (\text{Eq.2})$$

When faced with a decision scenario, the individual will choose the alternative j that yields the highest utility; therefore, the probability of choosing an alternative j over j^* can be expressed as:

$$P_{nj} = P(V_{nj} + \varepsilon_{nj} > V_{nj^*} + \varepsilon_{nj^*}) = P(\varepsilon_{nj^*} - \varepsilon_{nj} < V_{nj} - V_{nj^*}), \quad (\text{Eq.3})$$

which gives in the cumulative distribution function $F(x' n\beta)$ of the random component. Based on the assumption of its distribution, different discrete choice models can be

developed. Following this logic, the study of consumers' choices, which can be achieved by using e.g. DCEs, reveals individual preferences, and allows researchers to convert choice probabilities into other quantitative metrics such as elasticities or (marginal) WTP estimates (Rose and Bliemer, 2009).

In addition to Random Parameter Logit (RPL) estimation, Latent Class Analysis (LCA) is also performed. This method allows the identification of unobservable or latent classes within a heterogeneous population based on observed categorical variables. In LCA, individuals are classified into different classes based on their response patterns to observed variables, allowing for the identification of homogeneous subgroups with similar characteristics (Boxall and Adamowicz, 2002). Consumer n is assumed to belong to a latent class c , so that the utility function can be defined as:

$$U_{n,c}(j^*) = \frac{\exp(\beta_c x_{nj^*})}{\sum_{j=1}^J \exp(\beta_c x_{nj})} \quad (\text{Eq.4})$$

The decision on the number of classes is made based on the statistical measures of goodness-of-fit vs. model complexity such as the Akaike Information Criterion (AIC) or Bayesian Information Criterion (BIC) (Swait, 1994).

Experimental design and empirical model estimation

The DCE attributes were selected based on the objectives of the current study and the literature review. Previous studies on milk preferences have tested the significance of a variety of credence attribute labels such as animal welfare claim (Tavárez and Álamo, 2021), rearing method, geographical production area within a country (Tempesta and Vecchiato, 2013), or fair attributes and farmer price guarantee (Höhler and Schreiner, 2019). However, such claims are not present in the Serbian milk market and are beyond the scope of the current study. A culturally important determinant of milk choice in Serbia is fat content, which is also considered in similar studies by Brooks and Lusk (2010) and Taglioni et al. (2011). Although brand can be a relevant factor in consumer choice and has been considered in a similar setting (Grashuis, 2021), it is not commonly used in choice experiments (Caputo and Scarpa, 2022).

Therefore, the following attribute levels were selected: organic and domestic labels, prices corresponding to the market price range at the time of the data collection and percentages of milk fat (0.5%, 1.5%, and 2.8%). The national organic logo of the Republic of Serbia was used for the organic milk label, while a fictitious logo was used for the domestic milk label. *Table 1* gives an overview of selected attributes and their levels. *Figure 1* panel b) shows the organic and domestic logos used in the discrete choice experiment.

To distribute the attribute levels across the choice tasks, a Bayesian D-efficient design with zero priors was generated in R using the “idefix” package (Traets et al., 2020). The design with eight choice sets, each consisting of three choice alternatives – two product options and an opt-out option – was optimized using the modified Fedorov algorithm (Carlsson and Martinsson, 2003), yielding a D-error of 1.73. We opted to have eight choice tasks with two alternatives and an opt-out to minimize respondents' fatigue and random selection of alternatives. In addition, a repeated choice task (Johnson et al., 2019) was included as an internal validity check, and respondents with inconsistent choices were excluded from the analysis. The order in which respondents were shown the choice tasks was randomised.

Table 1. Attributes and respective levels used in the choice experiment

Attributes and respective levels	
1	Organic label: <ul style="list-style-type: none"> • No-label • Serbian organic label
2	Milk origin label: <ul style="list-style-type: none"> • No-label • 100% domestic milk label
3	Fat content: <ul style="list-style-type: none"> • 0.5% • 1.5% • 2.8%
4	Price for 1l UHT milk: <ul style="list-style-type: none"> • RSD 109.99 (c.a. EUR 0.94) • RSD 154.99 (c.a. EUR 1.32) • RSD 209.99 (c.a. EUR 1.79)

Source: Authors' illustration



Figure 1. (a) An example of a DCE question; (b) Illustration of Serbian organic and “100% domestic milk” labels used in the DCE. Source: Authors' illustration

In the empirical estimation of the model, the utility function expressed in general terms in (Eq.2) was specified as follows:

$$\begin{aligned}
 U_{njt} = & \beta_{1n} Price_{ntj} + \beta_{2n} 100\% \text{ domestic milk label}_{ntj} \\
 & + \beta_{3n} \text{ organic label}_{ntj} + \beta_{4n} \text{ medium fat}_{ntj} \\
 & + \beta_{5n} \text{ high fat}_{ntj} + \beta_{6n} \text{ opt - out}_{ntj} + \varepsilon_{ntj}
 \end{aligned} \quad (\text{Eq.5})$$

where n is a participant, j is the milk alternative and t is the choice scenario. The RPL model was estimated in R using the `mlogit` command from the “`mlogit`” package (Croissant, 2012). The advantage of RPL is that it allows for variability in preferences between individuals (Hauber et al., 2016). All parameters were allowed to vary between individuals assuming a normal distribution and the model estimation was based on 2,500 pseudo-random Halton draws. Detailed information on RPL estimation can be found in (Train, 2009).

Prior to running the RPL model, a Conditional Logit (CL) model was estimated to test whether one alternative was consistently preferred over the other. The survey was optimised for mobile devices, as it was expected that the majority of respondents would complete the survey using mobile phones or tablets, and the choice options were presented in a vertical layout (*Figure 1, panel A*). A systematic bias in consumer choice would occur if, for example, respondents consistently chose Milk A because it was easier for them to do so as this option was displayed at the top of the screen. The conditional logit model was specified as follows:

$$\begin{aligned}
 U_{njt} = & \beta_1 Price_{ntj} + \beta_2 100\% \text{ domestic milk label}_{ntj} \\
 & + \beta_3 \text{ organic label}_{ntj} + \beta_4 \text{ medium fat}_{ntj} \\
 & + \beta_5 \text{ high fat}_{ntj} + \beta_6 ASC1_{ntj} \\
 & + \beta_7 ASC2_{ntj} + \varepsilon_{ntj}
 \end{aligned} \quad (\text{Eq.6})$$

The notations in (Eq.6) are the same as those in (Eq.5), but the opt-out option is replaced by two alternative-specific constants, ASC1 and ASC2, which correspond to milk alternatives A and B, respectively, and indicate the utility of the respective alternatives relative to the opt-out. As the CL model does not account for the heterogeneity in consumer preferences, the subscript n next to β is not present. The estimated parameter values for ASC1 ($\beta = 3.89$, $z = 20.85$, $p < 0.001$) and ASC2 ($\beta = 3.85$, $z = 18.90$, $p < 0.001$), along with the subsequent Wald test for parameter equality (Chi-Square = 0.26, $p = 0.61$), indicate that there is no systematic difference in utility between milk alternative A (‘top product’) and B (‘bottom product’). It can therefore be concluded that the visual presentation of the DCE in a vertical format, which is more suitable for conducting the survey on mobile phones, did not bias the results.

The latent class model was estimated using the `lclglogit` command (Pacífico and Yoo, 2013) in STATA. Lastly, between-class differences in shopping habits for Ultra High Temperature (UHT) milk, perceptions of domestic milk, and perceptions of organic milk scale items were assessed using the nonparametric Kruskal-Wallis test.

Survey instrument

The first part of the survey consisted of the consent form and filter questions, asking respondents whether they lived in Serbia and whether they had purchased UHT milk in the last three months. The second part was about UHT milk consumption habits, including frequency of purchase and consumption, the most common ways of consuming this product and the price usually paid for 1 litre of UHT milk at intervals. The third part of

the survey consisted of DCE choice tasks and a cheap talk script (Lusk, 2003; Tonsor and Shupp, 2011), which was shown to respondents before the DCE tasks. In the cheap talk script, respondents were shown a picture of a supermarket aisle displaying UHT milk. The parts of the photo showing milk packaging and prices were blurred so that respondents were not biased. They were then asked to imagine that they were standing in front of a shelf of UHT milk in a supermarket where they normally buy milk and that they had two options, both from their favourite brand, but which differed in certain characteristics. The characteristics of UHT milk (attributes and levels) were also introduced to the respondents in the cheap talk script. The purpose of this was to improve respondents' ability to identify the product attributes and labels in the subsequent DCE choice tasks, as the visibility of labels on mobile devices could be an issue. We chose to use mock product images rather than a tabular representation of the attribute levels to increase the external validity of the experiment. The fourth section of the survey included questions about the perceived quality of domestic milk based on a three-item scale from (Yang et al., 2021) and attitudes towards organic milk based on a five-item scale from (Magnusson et al., 2001). Finally, respondents were asked about their gender, age in years and type of living situation (with parents, alone in own or rented accommodation, in a student hall of residence or other).

Data collection and sample characteristics

The data were collected in May and June 2023 from a student sample of Gen Z milk consumers from the Republic of Serbia using an online survey programmed in the Qualtrics survey tool. The questionnaire was started by 387 respondents, out of which 198 were excluded based on the following criteria: (1) did not agree to participate in the survey (n=6), (2) did not reside in the country (n=2), (3) did not purchase UHT milk in the last 3 months (n=110), (4) did not provide consistent answers to the repeated DCE question (n=30), (5) did not complete the survey (n=23), (6) showed speeding behaviour, particularly in the DCE questions (less than 2 seconds per choice task multiple times) (n=8), and (7) were unable (n=19) to answer questions on milk consumption habits (purchase frequency, consumption frequency and price normally paid for 1l of UHT milk). The final sample is thus composed of 189 respondents (N=189).

According to the rule of thumb for calculating the DCE sample size (Orme, 1998; Johnson and Orme, 2003) the number of respondents N should satisfy the inequality:

$$N \geq 500 \frac{L^{max}}{JS}, \quad (\text{Eq.7})$$

where L^{max} is the maximum number of levels for any of the attributes, J is the number of alternatives per choice task, excluding the opt-out option, and S is the number of choice sets per respondent. Using this approach, 94 respondents would be the lower limit of an acceptable sample size.

In the Gen Z sample surveyed, the following age distribution was as follows: 7.94% - 19 years old; 33.33% - 20 years old; 40.21% - 21 years old; 12.70% - 22 years old; 3.70% - 23 years old, and 2.12% - 24 years old. Females represented 89.95% of the valid respondents, while males represented only 10.05%. Most students (52.38%) still live with their parents, while 32.80% live alone in their own or rented accommodation. Only 12.17% of the students live in halls of residence and 2.65% of them selected "something else" as their living arrangement.

Results

RPL model estimates

The results of the RPL model indicating consumer preferences for milk attributes are presented in *Table 2*. The coefficients and their statistical significance show the effect of the selected attributes on product choice. The negative coefficient for "Price" indicates that as the product price increases, the probability of choosing the product decreases. This effect is statistically significant ($p < 0.001$). In addition, the negative coefficient for the "Opt-out" option indicates that choosing no milk alternative over any milk alternative significantly reduces consumer utility ($p < 0.001$). Therefore, the DCE experiment meets the basic econometric expectations of negative price and opt-out coefficient estimates for a sample of consumers of a product.

Table 2. Parameter estimates from the RPL model

Attribute	Coefficient (Estimate)	Standard Error	p-value
Price	-0.0258	0.0023	< 0.001
100% domestic milk	0.5866	0.1318	< 0.001
Organic	0.4094	0.1241	< 0.001
Medium fat (1.5%)	-0.0051	0.1546	0.9740
High Fat (2.8%)	0.3810	0.1624	0.0190
Opt-out	-7.9630	0.4953	< 0.001
Log-Likelihood= -897.1900			
Observations=4536			

Source: Authors' calculations

The RPL results also show that the "100% domestic milk" label increases consumer utility. This effect is statistically significant ($p < 0.001$), underlining the attractiveness of domestic milk for consumers. The positive coefficient for "Organic" shows that milk products with the Serbian organic label are also associated with an increase in utility compared to those without this label. This effect is statistically significant ($p < 0.001$).

The parameter estimates for milk fat content show a negative, but not statistically significant effect ($p = 0.974$) for "Medium Fat" milk, suggesting that the sampled consumers did not prefer UHT milk with 1.5% fat compared to low-fat milk (0.5% fat), which was used as a reference category. On the other hand, "High fat" milk was associated with a positive and statistically significant ($p = 0.019$) increase in utility, suggesting that high-fat UHT milk (2.8% fat) is preferred over the reference low-fat milk (0.5% fat).

We further estimated WTP values from the RPL model. The estimates and associated confidence intervals are presented in *Table 3*. The estimated MWTP for the "100% domestic milk" indication is EUR 0.1935, with a 95% confidence interval ranging from EUR 0.1094 to EUR 0.2814. This suggests that consumers are willing to pay a premium for products with the "100% domestic milk" claim, indicating a preference for domestically sourced dairy products. The sampled respondents are willing to pay a slightly lower premium for "Organic" milk, as the MWTP is EUR 0.1351, with a 95% confidence interval ranging from EUR 0.0556 to EUR 0.2188. The estimated WTP for "High Fat" UHT milk is EUR 0.1258, with a 95% confidence interval ranging from EUR 0.0214 to EUR 0.2381. This implies that consumers are willing to pay a premium for

UHT milk with higher fat content compared to low-fat milk, highlighting the appeal of this fat content level for an average Gen Z consumer. The estimated MWTP for “Medium Fat” milk and its confidence intervals indicate a lack of statistical significance, as consumers do not value milk with 1.5% fat content more than low-fat milk (0.5%).

Table 3. Mean willingness to pay estimates (MWTP) for milk attributes in EUR

Attribute	MWTP	Confidence interval	
		2.5%	97.5%
100% domestic milk	0.1935	0.1094	0.2814
Organic	0.1351	0.0556	0.2188
Medium fat (1.5%)	-0.0017	-0.1013	0.1005
High Fat (2.8%)	0.1258	0.0214	0.2381

Note: MWTP estimates obtained using the Krinsky and Robb method; 1 EUR = 117.27 RSD. Source: Authors' calculations

Based on the research results, the previously established hypotheses cannot be rejected. Our results indicate that the labels “100% domestic milk” (H₁) and “Organic” (H₂) have a positive and statistically significant impact on the utility of Gen Z consumers, but the willingness to pay for “100% domestic milk” is higher than for “Organic” milk (H₃).

LCA model estimates and segment characteristics

We carried out further analysis of the DCE data using LCA. The aim was to identify consumer segments characterised by different preferences for UHT milk attributes. Parameter estimates were calculated to quantify each segment's preference for different levels of each attribute. Unlike RPL models, LCA assumes unobservable preference heterogeneity that is discretely distributed and identifies a certain number of participant classes with similar preferences. For this study, several criteria were considered in determining the optimal number of classes (Table 4).

Table 4. Overview of criteria for determining the optimal number of classes

Models	Null log-likelihood	Akaike Information Criterion	Bayesian Information Criterion	Smallest class count (n)	Smallest class size (%)
2 class	-995.1859	2016.3718	2058.5145	84	44.4
3 class	-899.7309	1839.4617	1904.2967	41	21.7
4 class	-873.5839	1801.1677	1888.6948	31	16.4
5 class	-808.0745	1684.1491	1794.3685	16	8.5

Source: Authors' calculations

In addition to these statistical criteria, we also considered the class coefficient estimates and the interpretability of the results. Since there are no definitive statistical criteria for selecting an optimal number of latent classes (Boxall and Adamowicz, 2002; Hole, 2008). Thus, given the sample size and the fact that the three-cluster solution

already provided unreliable parameter estimates making the results uninterpretable, we proceed with the two-cluster solution.

Table 5 summarises the LC model estimates. Class 1 is named label-driven consumers and includes 84 (44%) respondents. Class 2 is named fat content-driven consumers and includes 105 (56%) respondents. For consumers in both latent classes, a price increase and not buying a product have a negative and statistically significant effect on the utility. For label-driven consumers, there is a positive and statistically significant effect ($p < 0.001$) for both “100% domestic milk” and “Organic” labels, indicating an increase in utility for this consumer segment when these labels are present on the UHT milk packaging. Conversely, the presence of the “100% domestic milk” and “Organic” labels on the UHT milk package is associated with a decrease in utility for the fat content-driven consumers, but this effect is statistically significant only for “Organic” ($p = 0.044$), but not for the “100% domestic milk label” ($p = 0.335$). The identified latent classes also show a divergence in preferences when it comes to the milk fat content. Label-driven consumers seem to prefer low-fat milk as both “Medium fat (1.5%)” and “High fat (2.8%)” levels statistically significantly decrease utility ($p = 0.008$ and $p < 0.001$, respectively) compared to the reference category (0.5% fat). The opposite is true for fat content-driven consumers, for whom an increase in fat content leads to a statistically significant increase in utility, and more so for “High fat (2.8%)” milk ($\beta = 1.473$, $p < 0.001$) than for “Medium fat (1.5%)” ($\beta = 0.429$, $p = 0.011$).

Table 5. Latent class model estimates

	Class 1: Label-driven			Class 2: Fat content-driven		
Sample size (N)	189					
Group size	84			105		
Attribute	Coefficient (Estimate)	Standard Error	p-value	Coefficient (Estimate)	Standard Error	p-value
Price	-0.0081	0.0017	<0.001	-0.0260	0.0018	<0.001
100% domestic milk	0.9511	0.1515	<0.001	-0.1274	0.1321	0.3350
Organic	0.9246	0.1323	<0.001	-0.2639	0.1308	0.0440
Medium fat (1.5%)	-0.3736	0.1413	0.0080	0.4288	0.1681	0.0110
High Fat (2.8%)	-1.1331	0.1774	<0.001	1.4729	0.1730	<0.001
Opt-out	-5.7520	0.7844	<0.001	-4.9993	0.2919	<0.001

Source: Authors' calculations

To further investigate the differences between the consumer segments, we compared the milk purchasing behaviour and attitudes towards domestic and organic milk between the two segments (*Table 6*). Based on the results of this comparison, it can be observed that the fat content-driven consumers purchase milk more frequently ($p < 0.01$), consume milk more frequently ($p < 0.01$) and pay a lower price for a litre of UHT milk ($p < 0.001$) than label-driven consumers. There are no statistically significant differences between the clusters for the items that make up the domestic and organic milk perception scales. The main characteristics of the classes are shown in *Figure 2*.

Table 6. Milk shopping habits, perception of domestic milk, organic milk and the results of the test statistics

	Class1: Label-driven	Class 2: Fat content-driven	K-W test
Group size	84	105	
1. Purchase frequency (M, (SD))	3.04 (1.32)	3.66 (1.14)	
1=Less than once per month (%)	17.86	6.67	p<0.01
2=Once per month (%)	16.67	6.67	
3=Two to three times per month (%)	23.81	27.62	
4=Once per week (%)	27.38	32.38	
5=More than once per week (%)	14.29	26.67	
2. Consumption frequency (M, (SD))	3.39 (1.54)	4.07 (1.32)	
1=Less than once per month (%)	19.05	8.57	p<0.01
2=Once per month (%)	11.90	5.71	
3=Two to three times per month (%)	15.48	15.24	
4=Once per week (%)	17.86	11.43	
5=More than once per week (%)	35.71	59.05	
3. Price normally paid (M, (SD))	3.35 (1.06)	2.74 (1.06)	
1=Less than EUR 0.85(%)	0.00	3.81	p<0.001
2=Between EUR 0.85 and EUR 1.06 (%)	23.81	45.71	
3=Between EUR 1.07 and EUR 1.28 (%)	33.33	33.33	
4=Between EUR 1.29 and EUR 1.49 (%)	32.14	10.48	
5=Between EUR 1.50 and EUR 1.71 (%)	5.95	2.86	
6=More than EUR 1.71 (%)	4.76	3.81	
4. Domestic milk perception (1=completely disagree, 5=completely agree)			
Is of good quality (M, (SD))	3.56 (1.42)	3.70 (1.23)	p=0.7150
Is safe to consume (M, (SD))	3.46 (1.56)	3.81 (1.27)	p=0.2392
Is trustworthy (M, (SD))	3.45 (1.51)	3.64 (1.23)	p=0.7046
5. Organic milk perception (1=completely disagree, 5=completely agree)			
Compared to conventional milk, organic milk has less fat (M, (SD))	3.24 (1.13)	3.11 (1.11)	p=0.3181
Compared to conventional milk, organic milk is healthier (M, (SD))	3.50 (1.42)	3.46 (1.26)	p=0.5629
Compared to conventional milk, organic milk is tastier (M, (SD))	3.11 (1.17)	3.29 (1.19)	p=0.3878
Compared to conventional milk, organic milk has longer best before date (M, (SD))	2.94 (1.08)	3.01 (1.07)	p=0.7404
Compared to conventional milk, organic milk is more expensive (M, (SD))	3.90 (1.30)	3.84 (1.39)	p=1

Source: Authors' calculations

instance, Hempel and Hamm (2016) found that German consumers were willing to pay more for the domestic attribute than for the organic attribute for four different types of food. In addition, Thøgersen et al. (2019) found that domestic milk is valued more than organic by Danish, German, French and Thai consumers, but not by Chinese consumers.

The results of this research suggest that the “100% domestic milk” label generates a higher WTP premium than the organic label among the Gen Z consumers surveyed. These findings suggest that the market potential for organic milk may be rather limited. It should also be noted that “100% domestic milk” is a fictitious label, unknown to consumers prior to the study, while the existing Serbian organic label is assumed to be more prominent. Moreover, the sample consisted of students who are informed about organic food in university courses and should be aware of its positive effects. In addition, our results show that consumers prefer milk with a higher fat content, which generates an average WTP premium similar to that of organic milk. This suggests that among younger consumers, tradition is an important driver of milk purchase decisions.

The results of our cluster analysis further suggest that only one segment of Gen Z consumers derives utility from both the “100% domestic milk” and “Organic” labels, whereas another segment is primarily motivated by the fat content of the milk, suggesting a divergence among Gen Z consumers. The literature suggests that there may be a substitution effect between organic and local food labels and that the predominant mechanism motivating the purchase of organic and local food is the desire to support local family farms (Meas et al., 2014). Furthermore, Hempel and Hamm (2016) found that consumers from federal states located in the former East Germany and those living in rural areas were less willing to pay for organic food, suggesting that region within the country and the type of area of residence may influence consumer preferences. This potential overlap in preferences between the country of origin and organic labelling, as well as the role of heterogeneity in preferences should be considered by marketers.

Possible solutions could be direct sales and strengthening the link between farmers and consumers. Carfora et al. (2019) showed that campaigns to foster trust in farmers could strengthen the position of the organic food category. This idea is in line with the findings of this study, as it is important for consumers that the milk is domestic, and the best proof of this is buying directly from the farmer. Another strategy could be the promotion of farmers’ cooperatives and the marketing of milk under a farmer-owned label, as the study by Grashuis (2021) showed that Dutch consumers have positive and statistically significant WTP for such products. Therefore, a synergy of economic measures is needed to strengthen direct sales with strong support for milk producers through agricultural policy measures such as direct payments per litre of organic milk. In addition, systematic education on the importance of organic food to different segments of the population, including through the mass media, as well as the inclusion of this topic in the curriculum of primary and secondary schools, could improve consumer understanding of the benefits of organic production and stimulate demand.

Without sufficient domestic demand, the development of organic milk production in Serbia will continue to lag behind, while without sufficient supply, it is impossible to generate consumer interest in organic products and develop purchasing habits, thus creating a vicious circle. The inability to promote the development of the organic market in Serbia is a task that should be addressed by agricultural policy makers, especially considering that the EU's Farm to Fork strategy emphasises the further expansion of organic production. If the divergent trends in domestic production and consumption in Serbia and the EU continue, there is a risk that the export competitiveness of Serbian food

products in the EU market will decline, while imported organic products could satisfy the demand of this segment in the country, which could have negative consequences for the Serbian agri-food sector.

Conclusion

Based on the results, the following conclusions can be drawn:

- Among the sampled Gen Z consumers, we observed a stronger preference (WTP) for “100% domestic milk” than for “Organic” UHT milk, as well as for “High fat (2.8%)” milk.
- The results of the latent class analysis, combined with a subsequent examination of segment differences in purchase behaviour and attitudinal factors, suggest that two distinct, and roughly equally sized consumer segments can be identified, namely label-driven consumers and fat-content-driven consumers. The latter purchase and consume milk more frequently, tend to pay a lower price per litre and derive considerable utility from high-fat milk, while being insensitive to the credence attribute labels “100% domestic milk” and “Organic”. The first group of consumers purchases and consumes milk less frequently, but reportedly pays a higher price per litre of milk, attaches utility to credence attribute labels and prefers low-fat milk.
- Tradition still plays a key role in the milk purchasing decisions of Generation Z consumers, even when they are informed about the importance of organic food, as is the case with the university students surveyed. In the long term, this may pose a problem for the competitiveness of Serbian milk producers in the European market due to the mismatch between European and domestic consumer preferences. This gap will be further exacerbated by the announcement of radical EU reforms to the food market, reflected in the Farm to Fork strategy. In order to respond to these challenges, early education of young people through the education system (e.g. workshops in primary schools) or mass media may be essential.

This study is limited by the relatively small number of male respondents in the total sample. Therefore, future research should be based on a more representative sample. The other limitation of this study is also related to the living situation of the respondents. Most of them still live with their parents, so the potential of developing their own shopping habits is limited. The DCE did not include other factors that might drive consumer preferences for UHT milk, such as brand.

Despite the limitations, this study can make an important contribution by providing valuable insights into Generation Z's willingness to pay for organic and domestic milk in the Republic of Serbia. The findings have some implications, it should help food manufacturers and marketing experts to better understand the behaviour of young consumers, i.e. their desires and demands. Future research will focus on a deeper analysis of Gen Z consumer behaviour on a larger sample with a wider geographical distribution.

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REFERENCES

- [1] Aertsens, J., Verbeke, W., Mondelaers, K., Van Huylenbroeck, G. (2009): Personal determinants of organic food consumption: a review. – In: van Huylenbroeck, G., Mondelaers, K., Aertsens, J. (eds.) *British Food Journal* 111(10): 1140-1167. Available at: <https://doi.org/10.1108/00070700910992961>.
- [2] Aydemir, M., Okan, Y., Takim, K. (2023): Generation Z consume animal-free milk? A Türkiye experience. – *Food and Health* 9: 254-261. Available at: <https://doi.org/10.3153/FH23023>.
- [3] Birovljev, J., Matkovski, B., Četković, B. (2015): The competitiveness of the Serbian agri-food products on the market of countries in the region. – *Anali Ekonomskog fakulteta u Subotici* 33: 61-78.
- [4] Boxall, P. C., Adamowicz, W. L. (2002): Understanding Heterogeneous Preferences in Random Utility Models: A Latent Class Approach. – *Environmental and Resource Economics* 23(4): 421-446. Available at: <https://doi.org/10.1023/A:1021351721619>.
- [5] Brankov, T., Matkovski, B., Jeremić, M., Đurić, I. (2021): Food Self-Sufficiency of the SEE Countries; Is the Region Prepared for a Future Crisis? – *Sustainability* 13(16): 8747. Available at: <https://doi.org/10.3390/su13168747>.
- [6] Brankov, T., Matkovski, B. (2022): Is a Food Shortage Coming to the Western Balkans? – *Foods* 11(22): 3672. Available at: <https://doi.org/10.3390/foods11223672>.
- [7] Brooks, K., Lusk, J. L. (2010): Stated and Revealed Preferences for Organic and Cloned Milk: Combining Choice Experiment and Scanner Data. – *American Journal of Agricultural Economics* 92(4): 1229-1241.
- [8] Caputo, V., Scarpa, R. (2022): Methodological Advances in Food Choice Experiments and Modeling: Current Practices, Challenges, and Future Research Directions. – *Annual Review of Resource Economics* 14(1): 63-90.
- [9] Carfora, V., Cavallo, C., Caso, D., Del Giudice, T., De Devitiis, B., Viscecchia, R., Nardone, G., Cicia, G. (2019): Explaining consumer purchase behavior for organic milk: Including trust and green self-identity within the theory of planned behavior. – *Food Quality and Preference* 76: 1-9. Available at: <https://doi.org/10.1016/j.foodqual.2019.03.006>.
- [10] Carlsson, F., Martinsson, P. (2003): Design techniques for stated preference methods in health economics. – *Health Economics* 12(4): 281-294. Available at: <https://doi.org/10.1002/hec.729>.
- [11] Claret, A., Guerrero, L., Aguirre, E., Rincón, L., Hernández, M. D., Martínez-Frutos, I., Peleteiro-Alonso, J. B., Grau, A., Rodríguez-Rodríguez, C. (2012): Consumer preferences for sea fish using conjoint analysis: Exploratory study of the importance of country of origin, obtaining method, storage conditions and purchasing price. – *Food Quality and Preference* 26(2): 259-266. Available at: <https://doi.org/10.1016/j.foodqual.2012.05.006>.
- [12] Croissant, Y. (2012): Estimation of multinomial logit models in R: The mlogit Package. – Université de la Réunion.
- [13] Dmitrovic, T., Vida, I., Reardon, J. (2009): Purchase behavior in favor of domestic products in the West Balkans. – *International Business Review* 18(5): 523-535. Available at: <https://doi.org/10.1016/j.ibusrev.2009.05.003>.
- [14] Drozdenko, R., Jensen, M. (2009): Translating country-of-origin effects into prices. – In: Guzmán, F., Abimbola, T. (eds.) *Journal of Product & Brand Management* 18(5): 371-378. Available at: <https://doi.org/10.1108/10610420910981855>.
- [15] FAOSTAT (2024): Available at: <https://www.fao.org/faostat/en/#home> (Accessed: 12 January 2024).
- [16] Fernández-Ferrín, P., Calvo-Turrientes, A., Bande, B., Artaraz-Minon, M. (2018): The valuation and purchase of food products that combine local, regional and traditional features: The influence of consumer ethnocentrism. – *Food Quality and Preference* 64: 138-147. Available at: <https://doi.org/10.1016/j.foodqual.2017.09.015>.

- [17] Grashuis, J. (2021): A price premium for the farmer-owned label? A choice experiment with milk consumers in the Netherlands. – *Agribusiness* 37(4): 749-763. Available at: <https://doi.org/10.1002/agr.21699>.
- [18] Grigoreva, E. A., Garifova, L. F., Polovkina, E. A. (2021): Consumer Behavior in the Information Economy: Generation Z. – *International Journal of Financial Research* 12(2): 164. Available at: <https://doi.org/10.5430/ijfr.v12n2p164>.
- [19] Grubor, A., Djokic, N. (2016): Organic food consumer profile in the Republic of Serbia. – *British Food Journal* 118(1): 164-182. Available at: <https://doi.org/10.1108/BFJ-06-2015-0225>.
- [20] Hasanzade, V., Elshiewy, O., Toporowski, W. (2022): Is it just the distance? Consumer preference for geographical and social proximity of food production. – *Ecological Economics* 200: 107533. Available at: <https://doi.org/10.1016/j.ecolecon.2022.107533>.
- [21] Hauber, A. B., González, J. M., Groothuis-Oudshoorn, C. G. M., Prior, T., Marshall, D. A., Cunningham, C., IJzerman, M. J., Bridges, J. F. P. (2016): Statistical Methods for the Analysis of Discrete Choice Experiments: A Report of the ISPOR Conjoint Analysis Good Research Practices Task Force. – *Value in Health* 19(4): 300-315. Available at: <https://doi.org/10.1016/j.jval.2016.04.004>.
- [22] Hempel, C., Hamm, U. (2016): Local and/or organic: A study on consumer preferences for organic food and food from different origins. – *International Journal of Consumer Studies* 40(6): 732-741. Available at: <https://doi.org/10.1111/ijcs.12288>.
- [23] Höhler, J., Schreiner, J. A. (2019): Unfair milk prices? Lessons from a split-sample choice experiment. – *British Food Journal* 122(2): 515-530. Available at: <https://doi.org/10.1108/BFJ-04-2019-0298>.
- [24] Hole, A. R. (2008): Modelling heterogeneity in patients' preferences for the attributes of a general practitioner appointment. – *Journal of Health Economics* 27(4): 1078-1094. Available at: <https://doi.org/10.1016/j.jhealeco.2007.11.006>.
- [25] Husic-Mehmedovic, M., Arslanagic-Kalajdzic, M., Kadic-Magljalic, S., Vajnberger, Z. (2017): Live, Eat, Love: life equilibrium as a driver of organic food purchase. – *British Food Journal* 119(7): 1410-1422. Available at: <https://doi.org/10.1108/BFJ-07-2016-0343>.
- [26] Johnson, R., Orme, B. (2003): Getting the Most from CBC. – In *Sawtooth Software research Paper Series* 98382.
- [27] Johnson, F. R., Yang, J.-C., Reed, S. D. (2019): The Internal Validity of Discrete Choice Experiment Data: A Testing Tool for Quantitative Assessments. – *Value in Health: The Journal of the International Society for Pharmacoeconomics and Outcomes Research* 22(2): 157-160. Available at: <https://doi.org/10.1016/j.jval.2018.07.876>.
- [28] Kamenidou, I. C., Mamalis, S. A., Pavlidis, S., Bara, E.-Z. G. (2019): Segmenting the Generation Z Cohort University Students Based on Sustainable Food Consumption Behavior: A Preliminary Study. – *Sustainability* 11(3): 837. Available at: <https://doi.org/10.3390/su11030837>.
- [29] Kamphuis, C. B. M., de Bekker-Grob, E. W., van Lenthe, F. J. (2015): Factors affecting food choices of older adults from high and low socioeconomic groups: a discrete choice experiment. – *The American Journal of Clinical Nutrition* 101(4): 768-774. Available at: <https://doi.org/10.3945/ajcn.114.096776>.
- [30] Katt, F., Meixner, O. (2020): A systematic review of drivers influencing consumer willingness to pay for organic food. – *Trends in Food Science & Technology* 100: 374-388. Available at: <https://doi.org/10.1016/j.tifs.2020.04.029>.
- [31] Končar, J., Grubor, A., Marić, R. (2019): Improving the placement of food products of organic origin on the AP Vojvodina market. – *Strategic Management* 24(3): 24-32. Available at: <https://doi.org/10.5937/StraMan1903024K>.
- [32] Kushwah, S., Dhir, A., Sagar, M., Gupta, B. (2019): Determinants of organic food consumption. A systematic literature review on motives and barriers. – *Appetite* 143: 104402. Available at: <https://doi.org/10.1016/j.appet.2019.104402>.

- [33] Kymäläinen, T., Seisto, A., Malila, R. (2021): Generation Z Food Waste, Diet and Consumption Habits: A Finnish Social Design Study with Future Consumers. – *Sustainability* 13(4): 2124. Available at: <https://doi.org/10.3390/su13042124>.
- [34] Lancaster, K. J. (1966): A New Approach to Consumer Theory. – *Journal of Political Economy* 74(2): 132-157.
- [35] Lazaroiu, G., Andronie, M., Uță, C., Hurloiu, I. (2019): Trust Management in Organic Agriculture: Sustainable Consumption Behavior, Environmentally Conscious Purchase Intention, and Healthy Food Choices. – *Frontiers in Public Health* 7. Available at: <https://www.frontiersin.org/articles/10.3389/fpubh.2019.00340> (Accessed: 27 December 2023).
- [36] Lillywhite, J. M., Al-Oun, M., Simonsen, J. E. (2013): Examining Organic Food Purchases and Preferences Within Jordan. – *Journal of International Food & Agribusiness Marketing* 25(2): 103-121. Available at: <https://doi.org/10.1080/08974438.2013.724000>.
- [37] Lusk, J. L. (2003): Effects of Cheap Talk on Consumer Willingness-to-Pay for Golden Rice. – *American Journal of Agricultural Economics* 85(4): 840-856.
- [38] Magnusson, M. K., Arvola, A., Koivisto Hursti, U. K., Åberg, L. (2001): Attitudes towards organic foods among Swedish consumers. – *British Food Journal* 103(3): 209-227. Available at: <https://doi.org/10.1108/00070700110386755>.
- [39] Massey, M., O’Cass, A., Otahal, P. (2018): A meta-analytic study of the factors driving the purchase of organic food. – *Appetite* 125: 418-427. Available at: <https://doi.org/10.1016/j.appet.2018.02.029>.
- [40] McFadden, D. (1974): Conditional logit analysis of qualitative choice behavior. – *Frontiers in econometrics* [Preprint].
- [41] Meas, T., Hu, W., Batte, M. T., Woods, T. A., Ernst, S. (2015): Substitutes or complements? Consumer preference for local and organic food attributes. – *American Journal of Agricultural Economics* 97(4): 1044-1071. Available at: <https://doi.org/10.1093/ajae/aau108>.
- [42] Milić, D., Tomaš Simin, M., Glavaš - Trbić, D., Radojević, V., Vukelić, N. (2022): Why I buy organic products: Perception of middle income country consumers (Republic of Serbia). – *Ekonomika poljoprivrede* 69(2): 497-515. Available at: <https://doi.org/10.5937/ekoPolj2202497M>.
- [43] Milić, D., Novaković, T., Tekić, D., Matkovski, B., Đokić, D., Zekić, S. (2023): Economic Sustainability of the Milk and Dairy Supply Chain: Evidence from Serbia. – *Sustainability* 15(21): 15234. Available at: <https://doi.org/10.3390/su152115234>.
- [44] Miller, K., Hofstetter, R., Krohmer, H., Zhang, Z. J. (2011): How Should Consumers’ Willingness to Pay Be Measured? An Empirical Comparison of State-of-The-Art Approaches. – *Journal of Marketing Research* 48. Available at: <https://doi.org/10.2307/25764572>.
- [45] Milovanović, O. K. (2022): Report on the Status of Organic Agriculture and Industry in Serbia. – *Country Report Organic 2022, Serbia*.
- [46] Nagy, L. B., Lakner, Z., Temesi, Á. (2022): Is it really organic? Credibility factors of organic food—A systematic review and bibliometric analysis. – *PLOS ONE* 17(4): e0266855. Available at: <https://doi.org/10.1371/journal.pone.0266855>.
- [47] Newman, C. L., Turri, A. M., Elizabeth Howlett, E., Stokes, A. (2014): Twenty Years of Country-of-Origin Food Labeling Research: A Review of the Literature and Implications for Food Marketing Systems. – *Journal of Macromarketing* 34(4): 505-519. Available at: <https://doi.org/10.1177/0276146714529306>.
- [48] Nguyen, P. M., Vo, N. D. (2023): Exploring Organic Food Purchase Behaviors of Gen Z: An Application of TPB and MOA Model in a Transition Country. – *Foundations of Management* 15(1): 35-50. Available at: <https://doi.org/10.2478/fman-2023-0003>.
- [49] Orme, B. (1998): Sample Size Issues for Conjoint Analysis. – In: *Research Paper Series* 98382.

- [50] Pacifico, D., Yoo, H. I. (2013): Lclogit: A Stata Command for Fitting Latent-Class Conditional Logit Models via the Expectation-Maximization Algorithm. – *The Stata Journal* 13(3): 625-639. Available at: <https://doi.org/10.1177/1536867X1301300312>.
- [51] Pearce, A., Harrison, M., Watson, V., Street, D. J., Howard, K., Bansback, N., Bryan, S. (2021): Respondent Understanding in Discrete Choice Experiments: A Scoping Review', *The Patient. – Patient-Centered Outcomes Research* 14(1): 17-53. Available at: <https://doi.org/10.1007/s40271-020-00467-y>.
- [52] Popović-Vranješ, A., Savić, M., Pejanović, R., Jovanović, S., Krajinović, G. (2011): The effect of organic milk production on certain milk quality parameters. – *Acta Veterinaria-Beograd* 61(4): 415-421. Available at: <https://doi.org/10.2298/AVB1104415P>.
- [53] Radojević, V., Tomaš Simin, M., Glavaš Trbić, D., Milić, D. (2021): A Profile of Organic Food Consumers—Serbia Case-Study. – *Sustainability* 13(1): 131. Available at: <https://doi.org/10.3390/su13010131>.
- [54] Rana, J., Paul, J. (2017): Consumer behavior and purchase intention for organic food: A review and research agenda. – *Journal of Retailing and Consumer Services* 38: 157-165. Available at: <https://doi.org/10.1016/j.jretconser.2017.06.004>.
- [55] Rose, J. M., Bliemer, M. C. J. (2009): Constructing Efficient Stated Choice Experimental Designs. – *Transport Reviews* 29(5): 587-617. Available at: <https://doi.org/10.1080/01441640902827623>.
- [56] Scalco, A., Noventa, S., Sartori, R., Ceschi, A. (2017): Predicting organic food consumption: A meta-analytic structural equation model based on the theory of planned behavior. – *Appetite* 112: 235-248. Available at: <https://doi.org/10.1016/j.appet.2017.02.007>.
- [57] Schleenbecker, R., Hamm, U. (2013): Consumers' perception of organic product characteristics. A review. – *Appetite* 71. Available at: <https://doi.org/10.1016/j.appet.2013.08.020>.
- [58] Schmidt, J., Bijmolt, T. H. A. (2020). Accurately measuring willingness to pay for consumer goods: a meta-analysis of the hypothetical bias. – *Journal of the Academy of Marketing Science* 48(3): 499-518. Available at: <https://doi.org/10.1007/s11747-019-00666-6>.
- [59] SEEDEV (2017): Konkurentnost poljoprivrede Srbije. – Available at: https://www.seedev.org/publikacije/Konkurentnost_poljoprivrede_Srbije/Konkurentnost_Srbije_Analiza.pdf.
- [60] Smigic, N., Djekic, I., Tomasevic, I., Stanisic, N., Nedeljkovic, A., Lukovic, V., Miocinovic, J. (2017): Organic and conventional milk – insight on potential differences. – *British Food Journal* 119(2): 366-376. Available at: <https://doi.org/10.1108/BFJ-06-2016-0237>.
- [61] Stearns, S., Rabinowitz, A. (2021): Understanding Milk Consumption Habits Among College Students in Order to Redesign Outreach. – *The Journal of Extension* 59(2). Available at: <https://doi.org/10.34068/joe.59.02.09>.
- [62] Su, C.-H. (Joan), Tsai, C.-H. (Ken), Chen, M.-H., Lv, W. Q. (2019): U.S. Sustainable Food Market Generation Z Consumer Segments. – *Sustainability* 11(13): 3607. Available at: <https://doi.org/10.3390/su11133607>.
- [63] Swait, J. (1994): A Structural Equation Model of Latent Segmentation and Product Choice for Cross-Sectional, Revealed Preference Choice Data. – *Journal of Retailing and Consumer Services* 1(2): 77-89.
- [64] Taglioni, C., Cavicchi, A., Torquati, B., Scarpa, R. (2011): Influence of Brand Equity on Milk Choice: A Choice Experiment Survey. – *International Journal on Food System Dynamics* 02. Available at: <https://doi.org/10.18461/ijfsd.v2i3.239>.
- [65] Tavárez, H., Álamo, C. (2021): Using Choice Experiments to Estimate the Value of Differentiated Cow's Milk in Puerto Rico. – *Frontiers in Sustainable Food Systems* 5. Available at: <https://www.frontiersin.org/articles/10.3389/fsufs.2021.671049> (Accessed: 27 December 2023).

- [66] Tempesta, T., Vecchiato, D. (2013): An analysis of the territorial factors affecting milk purchase in Italy. – *Food Quality and Preference* 27(1): 35-43. Available at: <https://doi.org/10.1016/j.foodqual.2012.06.005>.
- [67] Thøgersen, J., Pedersen, S., Aschemann-Witzel, J. (2019): The impact of organic certification and country of origin on consumer food choice in developed and emerging economies. – *Food Quality and Preference* 72: 10-30. Available at: <https://doi.org/10.1016/j.foodqual.2018.09.003>.
- [68] Thøgersen, J. (2023): How does origin labelling on food packaging influence consumer product evaluation and choices? A systematic literature review. – *Food Policy* [Preprint], (119).
- [69] Țigan, E., Brînzan, O., Obrad, C., Lungu, M., Mateoc-Sîrb, N., Milin, I. A., Gavrițaș, S. (2021): The Consumption of Organic, Traditional, and/or European Eco-Label Products: Elements of Local Production and Sustainability. – *Sustainability* 13(17): 9944. Available at: <https://doi.org/10.3390/su13179944>.
- [70] Tjandra, N. C., Omar, M., Ensor, J. (2015): Advanced and emerging economies Generation Y's perception towards country-of-origin. – *International Journal of Emerging Markets* 10(4): 858-874. Available at: <https://doi.org/10.1108/IJoEM-11-2012-0146>.
- [71] Tomaš, S. M., Glavaš Trbić, D., Petrović, M., Komaromi, B. (2019): Prices of organic products in the Republic of Serbia. – *Western Balkan Journal of Agricultural Economics and Rural Development* 1(2): 93-100. Available at: <https://doi.org/10.5937/WBJAE1902093T>.
- [72] Tonsor, G., Shupp, R. (2011): Cheap Talk Scripts and Online Choice Experiments: “Looking Beyond the Mean”. – *American Journal of Agricultural Economics* 93(4): 1015-1031.
- [73] Traets, F., Sanchez, D. G., Vandebroek, M. (2020): Generating Optimal Designs for Discrete Choice Experiments in R: The idifix Package. – *Journal of Statistical Software* 96: 1-41. Available at: <https://doi.org/10.18637/jss.v096.i03>.
- [74] Train, K. (2009): *Discrete Choice Methods with Simulation*. – Cambridge University Press, Available at: <https://eml.berkeley.edu/books/choice2.html> (Accessed: 27 December 2023).
- [75] Vapa-Tankosić, J., Ignjatijević, S., Kiurski, J., Milenković, J., Milojević, I. (2020): Analysis of consumers' willingness to pay for organic and local honey in Serbia. – *Sustainability* 12(11): 4686. Available at: <https://doi.org/10.3390/su12114686>.
- [76] Vega-Muñoz, A., Gil-Marín, M., Contreras-Barraza, N., Salazar-Sepúlveda, G., Verónica Losada, A. V. (2022): How to Measure Organic Fruit Consumer Behavior: A Systematic Review. – *Horticulturae* 8(4): 318. Available at: <https://doi.org/10.3390/horticulturae8040318>.
- [77] Vehapi, S., Mitic, S. (2021): Generation Z consumers' motives and barriers to purchasing organic food products in Serbia. – *Economics of Agriculture* 68(4): 985-1000. Available at: <https://doi.org/10.5937/ekoPolj2104985V>.
- [78] Vehapi, S., Šabotić, Z. (2021): Willingness of generation Z consumers to pay more for organic food in Serbia. – *Marketing* 52(4): 247-258. Available at: <https://doi.org/10.5937/mkng2104247V>.
- [79] Yang, R., Ramsaran, R., Wibowo, S. (2021): Do consumer ethnocentrism and animosity affect the importance of country-of-origin in dairy products evaluation? The moderating effect of purchase frequency. – *British Food Journal* 124(1): 159-178. Available at: <https://doi.org/10.1108/BFJ-12-2020-1126>.
- [80] Yeh, C.-H., Hirsch, S. (2023): A meta-regression analysis on the willingness-to-pay for country-of-origin labelling. – *Journal of Agricultural Economics* 74(3): 719-743. Available at: <https://doi.org/10.1111/1477-9552.12528>.
- [81] Zhang, Y., In, S., Zhang, Y. Y., Yu, X. (2020): How country of origin influences Chinese consumers' evaluation of imported milk? – *China Agricultural Economic Review* 13(1): 150-172. Available at: <https://doi.org/10.1108/CAER-06-2019-0103>.