Jelena Vapa-Tankosić*

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THE RIGHT TO HEALTH: RESEARCH ON THE PURCHASE OF ORGANIC PRODUCTS IN SERBIA

By adopting a quantitative research methodology this paper seeks to explore consumer perception prediction of the organic foods purchase using an ordinal regression model. The socio-demographic characteristics such as age and monthly household income, gave a significant unique contribution to the prediction to the willingness to pay for organic products. The findings show that the female respondents and the consumers' between 30-40 years of age, living in an urban area, with up to 4 members and a monthly income of €501.00 to €1,000.00 consider organic products to have more nutritional properties then the conventional products. On the other hand, the irregular organic consumers with the highest levels of education are less inclined to consider that the organic products have more nutritional properties than the conventional products. The findings indicate that there is a potential niche in the organic products fast developing market and could provide a good basis for further research on consumers' behaviour. As the consumption of organic products in the Republic of Serbia is gradually increasing understanding the factors influencing consumers' decision to purchase organic products can help all stakeholders in creating an adequate pricing and promotional strategy for organic products.

***Keywords**: consumers, nutritional properties, organic products, Republic of Serbia, willingness to pay.*

* University Business Academy, Faculty of Economics and Engineering Management, Serbia, email: jvapa@fimek.edu.rs, ORCID: 0000-0001-8062-1154,.

1. Introduction

In the year 2017, according to the official statistics of Eurostat (2020) the organic areas in the European Union have accounted for about 7% of the total EU agricultural land. Likewise, global sales of organic food and beverages in the last 15-20 years have seen significant growth and the demand for the organic products on the market is higher than supply. "Our health and quality of life depend on clean air, safe water, sustainably produced food, a stable climate, and healthy biodiversity and ecosystems" (Šego, Žagar, 2022: 406). We can say that environmental crisis and climate changes are two major challenges of our time (Kambovski, 2021). "Disasters, most of which have been exacerbated by climate change and which are increasing in frequency and intensity, are largely hampering progress towards sustainable development (Mršević, Janković:661).

Global tendencies point to the fact that the demand for organic products has registered significant growth even in the period of the latest global economic crisis. According to the official data of the Ministry of Agriculture, Forestry and Water Management of the Republic of Serbia in the Republic of Serbia the share of areas under organic production in previous years have had a substantial rise, with a registered increase of 204% in organic production from the year 2012 till 2018. Thus, an increasing interest in organic agriculture has spurred the emergence of a plethora of research papers comparing different aspects of organic and conventional food production. In the mature organic products markets the research on consumer perceptions has been present for a long time, but in less developed countries organic products markets this type of research is at its beginning and there is a scarce number of scientific papers on this topic. Based on a comprehensive analysis of current empirical studies on organic food consumption and determinants, in developed organic markets the consumers are more concerned about the use of pesticides in conventional production and show a greater willingness to pay a higher premium for organic products (Jolly 1991; Misra et al. 1991; Millock et al. 2004). Household income also has a major impact on the ability and regularity of organic food purchases. Yiridoe et al. (2005:198) emphasize that "empirical evidence supports the hypothesis that product quality characteristics influence consumers' preferences for organic food, with the following being the most important qualities: (1) nutritional value; (2) economic value; (3) freshness; (4) taste and smell; (5) maturity and (6) general appearance (especially of fruits and vegetables)." In the emerging markets, organic food availability in retail outlets and price are the main limiting factors for organic food consumption. In developed organic food markets, the most common reasons for buying organic food are environmental concerns and health reasons. The qualitative aspects of a food product (taste and visual attractiveness) are significant factors influencing the decision to buy organic food.

In the region of post socialist countries, Zakowska-Biemans (2011) findings point out that Polish organic food consumers have outlined the health, safety, lack of chemicals and quality as the most important motives for organic food purchases. The research findings from ex-Yugoslavia area (Croatia, Slovenia and Bosnia and Herzegovina) by Cerjak et al. (2010) have shown that the respondents from Croatia have the most positive attitude towards organic food, while respondents from Slovenia are least inclined to consume organic food. The most important reasons for the consumption of organic products in Croatia and Slovenia are the health value of organic food and environmental concerns, while the respondents in Bosnia and Herzegovina singled out the return to nature, the health value and the safety of organic food products as the main reasons for the consumption of organic products. The research findings of Kuhar and Juvančić (2010) reveal that the most common reasons, for Slovenian consumers that purchase organic food, are the availability in retail outlets, income, health and environmental considerations, and visual attractiveness of products. The Croatian organic consumers, in the findings of Brčić-Stipčević and Petljak (2011), perceive organic food, as well as products with an eco-label, as tastier than conventional food, and consider them to be healthier for them and their families.

One of the first studies on consumer attitudes regarding the consumption of organic products by Jolly (1991) concludes that certain variables (age, occupation and size of residence) proved to be statistically significant to explain differences in purchasing behavior between consumers and non-consumers of organic products. The place of residence has been shown to significantly influence purchasing behavior as well as education level. Men have shown a greater willingness to pay higher prices for organic products than women, while consumers with higher education show a greater willingness to pay (WTP) a higher premium for organic products. Respondents aged forty to fifty showed a willingness to pay the highest premium for organic products (40.4%). Misra et al. (1991) have identified that socio-demographic variables, such as race, age, income, and education, have a significant impact on the likelihood that consumers will be willing to pay higher amount for organic products. The consumer attitudes towards product testing and certification in the future can have a significant impact on their willingness to pay a higher price for such products. In addition, the results of their research showed that respondents who were over 60 and whose annual total household income was more than $35,000 were willing to pay the highest premium for certified pesticide-free products.

In the emerging markets of organic production, such as the Republic of Serbia, a more positive attitude of consumers towards organic products is present. But, the low purchasing power of consumers and high retail prices are the main obstacles for higher consumption of organic products in the Republic of Serbia. Yet, the study on willingness to pay (WTP) for organic products in Serbia (Vapa-Tankosić et al. 2018) has shown that Serbian consumers would be willing to pay a premium up to 20% for organic products. As the main reasons for the purchase of organic food products in Serbia, authors Vlahović et al. (2011) state that the majority of respondents consider that organic products are safer for human consumption, while on the second place respondents have outlined its' quality. A smaller number of consumers (10%) has mentioned the issue of environmental protection (prevalently respondents under 35 years of age). The findings on organic products consumers in Macedonia and Serbia by Sekovska et al. (2012) has revealed that most respondents (72% of Macedonian and 58% of Serbian consumers) believe that the organic products are healthier, more natural than conventional food products, have better quality and do not pollute the environment. On the other hand, the respondents were not convinced that the organic products had a better taste, longer shelf life or better appearance. The research involving cities in Serbia by Vehapi (2015) indicates that most consumers (81.6%) have identified health as the primary reason for the consumption of organic products in Serbia, then quality (25.9%) and food safety (23%). The consumers' motives show that care for the animal welfare, saving resources for next generations and supporting local farmers are less important reasons for the consumption of the organic products.

Focusing on the further development of the market for organic products in the Republic of Serbia, this paper shall provide a current insight into the main reasons for consumption of organic products and consumer perception of organic products in the Republic of Serbia (Vapa-Tankosić 2019). This study shall examine the socio-demographic variables that predict the willingness to pay (WTP) and the assessment of the nutritional properties of the organic products by an ordinal regression model.

2. Material and methods

The survey was conducted on the territory of the Republic of Serbia from May 2016 to January 2017. For the selection of a representative sample the random selection method was used. The questionnaire has included questions on the socio-demographic characteristics of consumers, the main reasons for the consumption of the organic products, the frequency of the organic products purchase, the consumers' willingness to pay for organic products (nothing more, up to 10%, 10-20%, 20-30% and more than 30%) and the estimate of the organic products nutritional value (1-5). The answers received have included 398 respondents, of which 311 have declared as the consumers of organic products. The hypothesis that the authors want to examine is whether the consumers' socio-demographic characteristics predict the willingness to pay for organic products as well as the assessment of the organic products nutritional properties. In the research the authors have tested the hypothesis by means of the ordinal regression to see the influence of two or more explanatory variables on the dependent variable. The ordinal logistic regression is a statistical method that examines the influence of multiple independent factors on a single dependent factor (Rosner, 2011). The equation of the binary logistic regression model is defined by as in Formula (1):

$$ln\left(\frac{p}{1-p}\right) = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \cdots \beta_n X_n \quad (1)$$

in which the independent factors are X_i, the regression coefficients are β_i and p the probability that the event has occurred. In this case, the dependent factor is binary. However, when the ordinal type variable is dependent with more than two categories then we define the final cumulative logit model as in Formula (2):

$$ln\left(\frac{p(Y \leq j)}{1-p\ (Y \leq j)}\right) = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \cdots \beta_n X_n \quad (2)$$

where:

X_i = independent (explanatory) variables or predictors
β_i = regression coefficients or parameters
p = the probability of an event occurring
Y = dependent variable divided into j categories.

The statistical package SPSS (Statistical package for Social Sciences) was used to analyze the data of this study. In all statistical tests, the significance threshold (α) was set at 5%. In applying the models with proportional odds the authors have checked the assumptions of validity of ordinal regressions. Model Fitting, Goodness-of-Fit (Pearson and Deviance Goodness-of-fit tests); the Cox and Snell, Nagelkerke and McFadden R2, as well as the assumption of parallel lines, have all been performed in order to prove the ordinal model validity.

The structure of the sample

In our further analysis we had a valid sample of 311 respondents that are consumers of organic products. The sample consisted of 170 female and 141 male consumers (Table 2). The majority of these respondents had a bachelor‘s degree. Almost 90% of the respondents lived in a small household (up to 4 members). The average monthly family income of the majority of the respondents was between €500.00 and €1,000.00 (44.1%)

followed by earnings between 200 to 500 euros (31.5%). The highest percentages of consumers came from urban surroundings (85%). The answers show that the largest percentage of respondents (40.51%) buys organic products once a week, as well as several times a month (39.22%). Only a small number of respondents (12.86%) buy organic products every day. The largest number of respondents (39.55%) is willing to pay 10-20% of the margin on the price of products obtained by conventional means. In second place are respondents (29.90%) who are willing to pay a margin of 20-30% compared to the standard price of products of conventional origin. From the crosstabs, it can be seen that older regular consumers over the age of 50 have expressed the willingness to pay 20–30% for the organic products relative to the price of conventional products. The next variable refers to the expressed attitudes of the respondents about the assessment of the nutritional properties of organic products. The results indicate that the majority of respondents (39.55%) have rated the nutritional properties with a grade 3, followed by grade 4 (31.83%) and grade 5 (21.22%). The percentage of respondents who rated the nutritional properties of organic products with the lower grades (1 and 2) is negligible (7,4%). From the crosstabs it can be seen that the consumers who have attributed the grades of 4 and 5 to organic products' nutritional properties are female consumers that are in the age group 31-40, with a bachelor degree from university or college, living in a small households with up to 4 members, whose monthly incomes are from € 501,00 to €1.000,00. As per the motives for the organic products purchase, the largest number of respondents have singled out health as the main reason for purchasing the organic products (69.77%). The respondents then outlined the safety as as these products contained less "chemistry" (12.54%), the better taste and the quality (10.61%). The environmental protection (0,96%) and the animal welfare (0,32%) as a general purchasing determinant do not have any motivating power, which indicates a low level of awareness of the respondents on the above issues. Also the reasons such as curiosity to try new products (2.57%) or better children nutrition (3,23%) have not been proven to be significant reasons for the purchase of organic products.

3. Results and Discussion

Model 1 prediction of consumers' WTP for organic products

By using the ordinal logistic regression with the logit link function the influence of independent predictors (*Gender, Age, Education level, Household size, Place of residence and Monthly income of regular consumers of organic products*) on the WTP for organic products, as a dependent variable has been analyzed. Before interpreting the model's regression coefficients, the assumptions regarding model adequacy have been examined. First of all, the multicollinearity was tested using VIF (Variance Inflation Factor) in order to confirm that the multicollinearity was not present in the model. Based on the results obtained from the Model Fitting ($\chi2(13)= 34,188$; $p= 0,001$) it can be concluded that the statistical significance of the models is present and that the model with predictor variables makes a significant contribution to the prediction of the dependent variable consumers' willingness to pay for organic products. The presented model indicates that 19.9% Nagelkerke variance of the model was explained by the explanatory variables. The "Goodness-of-Fit" with $\chi2$ test with Pearson's Chi-square statistic shows how well the obtained model fits the data. If we take into account the significance level $p <0.05$, from the obtained results for Model 1 ($\chi2$ (335) = 379.128; $p = 0.048$) we can conclude that our p-value is close to the cut-off significance level. However, in cases of large cause or models with a large number of categorical (nominal or ordinal) predictors, we can choose to set a lower p-value to test the "Goodness-of-Fit" assumption or good data fit with the model ($p <0.01$). We have then interpreted the utility of the model by the value of the coefficient of determination (Pseudo R2) which indicates the percentage of explained variance of the criterion variable through the offered model ("log likelihood for the model compared to the log likelihood for a baseline model"). The presented model indicates that 19.9% Nagelkerke variance of the model was explained by the explanatory variables. In addition to the results of assumptions regarding the model adequacy, we have performed a test of parallel lines. If the general model gave a significantly better fit to the data than the ordinal (proportional odds) model ($p < .05$) then one could be led to reject the assumption of proportional odds. The assumption of good fit of the ordinal model was confirmed by the result ($\chi2= 52,839$, df= 39, $p= 0,069$). The process of verifying the adequacy of the model has been fully completed (Table 1).

Table 1. Validity of an ordinal regression model 1

Model Fitting Information				
Model	-2 Log Likelihood	Chi-Square	df	Sig.
Intercept Only	358,289			
Final	324,100	34,188	13	,001*
Goodness-of-Fit				
	Chi-Square	df	Sig.	
Pearson	379,128	335	,048**	
Deviance	254,157	335	1,000	
Test of Parallel Lines				
Model	-2 Log Likelihood	Chi-Square	df	Sig.
Null Hypothesis	324,100			
General	271,262	52,839	39	,069

Significant at *p<0.05, **p<0.01 — Source: own research

When analyzing the final Model in Table 2, the variable Age (in three categories: 20–30 years (Sig. = 0.00); 31–40 years (Sig. = 0.00); 41-50 years (Sig. = 0.00) was proved to be significant predictor of the WTP for organic products. Based on the Exp (B) value for the explanatory variable Age, provided that all other predictors in the model are kept constant, the probability of the willingness of the consumers aged 20-30 to pay a higher price for the purchase of organic products decreases by 0.24 compared to those respondents who are over 60 years old. The probability of the willingness of the consumers aged 31–40, as well as respondents aged 41–50, to pay more for the purchase of the organic products decreases by 0.23 compared to those respondents who are over 60 years old.

Table 2. Results of the Model 1

	B	Std. Error	Wald	df	Sig.	Lower-Bound	Upper-Bound	Exp(B)	Lower	Upper
[gender=1]	0,23	0,21	1,13	1,00	0,29	-0,19	0,65	1,26	0,83	1,92
[gender=2]	0,00	0,00	0,00	0,00	0,00	0,00	1,00	0,00	0,00	0,00
[age=1]	-1,44	0,48	8,88	1,00	0,00*	-2,39	-0,49	0,24	0,09	0,61
[age=2]	-1,45	0,47	9,45	1,00	0,00*	-2,38	-0,53	0,23	0,09	0,59
[age=3]	-1,49	0,49	9,26	1,00	0,00*	-2,44	-0,53	0,23	0,09	0,59
[age=4]	-0,78	0,52	2,22	1,00	0,14	-1,81	0,25	0,46	0,16	1,28
[age=5]	0,00	0,00	0,00	0,00	0,00	0,00	1,00	0,00	0,00	0,00
[education=1]	-0,08	0,35	0,06	1,00	0,81	-0,77	0,60	0,92	0,46	1,83
[education=2]	-0,12	0,27	0,18	1,00	0,68	-0,65	0,42	0,89	0,52	1,53
[education=3]	0,00	0,00	0,00	0,00	0,00	0,00	1,00	0,00	0,00	0,00
[householdsize=1]	-0,11	0,36	0,09	1,00	0,76	-0,82	0,60	0,90	0,44	1,82
[householdsize=2]	0,00	0,00	0,00	0,00	0,00	0,00	1,00	0,00	0,00	0,00
[placeofresidence=1]	0,23	0,30	0,59	1,00	0,44	-0,36	0,83	1,26	0,70	2,30
[placeofresidence =2]	0,00	0,00	0,00	0,00	0,00	0,00	1,00	0,00	0,00	0,00
[monthlyincome=1]	2,62	0,78	11,23	1,00	0,00*	1,09	4,14	13,67	2,96	63,11
[monthlyincome=2]	1,40	0,59	5,69	1,00	0,02*	0,25	2,55	4,04	1,28	12,75
[monthlyincome=3]	0,99	0,54	3,34	1,00	0,07	-0,07	2,04	2,68	0,93	7,70
[monthlyincome=4]	0,00	0,54	0,00	1,00	1,00	-1,07	1,06	1,00	0,34	2,89
[monthlyincome=5]	0,00	0,00	0,00	0,00	0,00	0,00	1,00	0,00	0,00	0,00

Significant at $^*p<0.05$, $^{**}p<0.01$ — Source: own research

The amount of monthly income (in two categories: EUR 1,000.00– 2,000.00 (Sig. = 0.02) and more than EUR 2,000.00 (Sig. = 0.00) was also proved to be significant predictor of the WTP for organic products. Based on the Exp (B) value for the explanatory variable Total monthly income, we can say that the probability of willingness of the consumers, who have a monthly income over 2,000.00 euros, to pay a higher price for the purchase of the organic products increases by 13.67 compared to those consumers who have a monthly income of less than 200.00 euros, as well as the probability of the willingness of the consumers, who have a monthly income of 1,000.00-2,000.00 euros, to pay more for the purchase of the organic products increases by 4.04 compared to those consumers who have a monthly income of less than 200,00 euros. The following findings that the age and the monthly income as socio-demographic variables, have a significant impact on the likelihood that consumers will be willing to pay higher amount for organic products were confirmed by the findings in the USA (Jolly 1991; Misra et al. 1991), Denmark (Millock et al. 2004), Greece (Tsakiridou et al. 2006), Great Britain and Denmark (Wier et al. 2008), Turkey (Akgungor et al. 2010), Iran (Haghjou et al. 2013), Slovakia and the Czech Republic (Zámková & Prokop 2014), the United Arab Emirates (Muhammad et al. 2015), Croatia (Anić et al. 2015) and Thailand (Sriwaranun et al. 2015).

Model 2 prediction of consumers' assessment of the nutritional properties of organic products

The authors have investigated whether the socio-demographic characteristics of consumers' (*Gender, Age, Education level, Household size, Place of residence and Monthly income of regular consumers of organic products*) predict the consumers' assessment of the nutritional properties of organic products. Once again, before interpreting the model's regression coefficients, the assumptions regarding model adequacy have been examined. The multicollinearity was tested and confirmed not to be present in the model. The Model Fitting Information, in the Table 4, provided us with information on whether the model with predictor variable can be marked as satisfactory. Based on the obtained fitting results ($\chi 2$ (14) = 15,992; p =0,314), there is no statistical significance in the whole sample. In order to have a substantial improvement of model fit a subsequent testing of the model was done on the sample of Regular and Irregular Organic Consumers. To test the hypothesis of equal representation of the group of irregular and regular consumers in the sample at the significance level of 5%, we tested the hypothesis of the equality of two binomial proportions. The binomial test showed that the proportion of irregular consumers of 0.50 was not lower than the expected 0.50, p = 0.281. The model further proved to be significant on the sample of irregular organic consumers as the Goodness-of-Fit test proved the null hypothesis that the fit is good. As this hypothesis has not been rejected ($p>.05$) it has been concluded that the data and the model predictions are similar and that the model is good ($\chi 2$ (338) =304,860; p =0.902). The values of the coefficient of determination (Pseudo R2) has indicated 11,4% of the Nagelkerke variance of the model was explained by the independent variables. In addition to the results of assumptions regarding the model adequacy, a test of parallel lines has been performed. The assumption of proportional odds was confirmed by the result ($\chi 2$ =41,743, df= 42, p=0.482). The process of verifying the adequacy of the Model 2 has been fully completed (Table 3).

Table 3. Validity of an ordinal regression model 2

Model Fitting Information				
Model	-2 Log Likelihood	Chi-Square	df	Sig.
Intercept Only	284,774			
Final	268,782	15,992	14	,314
Goodness-of-Fit				
	Chi-Square	df	Sig.	
Pearson	304,860	338	,902	
Deviance	220,770	338	1,000	
Test of Parallel Lines				
Model	-2 Log Likelihood	Chi-Square	df	Sig.
Null Hypothesis	268,782			
General	227,039	41,743	42	,482

Significant at *p<0.05, **p<0.01 — Source: own research

The results of the final model obtained by ordinal regression (Table 4) have shown the statistical significance of only one independent variable, i.e. the Level of Education (category: education level 2) which proved to be a significant predictor of the variable the Assessment of the organic products nutritional properties (Sig. 0.03). This indicated that the probability of the irregular consumers of organic products who had finished college or university (BA degree) to perceive that the organic products have higher nutritional value increases by 2.59, compared to those respondents who have Master or PhD degree, controlling all other factors in the model.

Table 4. Results of the Model 2

	B	Std. Error	Wald	df	Sig.	Lower-Bound	Upper-Bound	Exp(B)	Lower	Upper
[gender=1]	-0,09	0,33	0,07	1,00	0,79	-0,73	0,56	0,92	0,48	1,75
[gender=2]	0,00	0,00	0,00	0,00	0,00	0,00	0,00	1,00	0,00	0,00
[age=1]	-0,29	0,71	0,17	1,00	0,68	-1,68	1,10	0,75	0,19	3,00
[age=2]	0,26	0,68	0,14	1,00	0,70	-1,07	1,59	1,29	0,34	4,89
[age=3]	0,76	0,71	1,14	1,00	0,29	-0,64	2,16	2,15	0,53	8,71
[age=4]	0,30	0,86	0,12	1,00	0,73	-1,38	1,97	1,35	0,25	7,20
[age=5]	0	0,00	0,00	0,00	0,00	0,00	0,00	1,00	0,00	0,00

[education=1]	0,50	0,53	0,88	1,00	0,35	-0,54	1,55	1,65	0,58	4,70
[education=2]	0,95	0,43	5,00	1,00	0,03*	0,12	1,79	2,59	1,13	5,96
[education=3]	0,00	0,00	0,00	0,00	0,00	0,00	1,00	0,00	0,00	0,00
[householdsize=1]	0,30	0,53	0,33	1,00	0,57	-0,74	1,34	1,35	0,48	3,83
[householdsize=2]	0,00	0,00	0,00	0,00	0,00	0,00	1,00	0,00	0,00	0,00
[placeofresidence=1]	-0,55	0,47	1,33	1,00	0,25	-1,47	0,38	0,58	0,23	1,46
[placeofresidence =2]	0,00	0,00	0,00	0,00	0,00	0,00	1,00	0,00	0,00	0,00
[monthlyincome=1]	0,72	1,31	0,30	1,00	0,58	-1,86	3,29	2,05	0,16	26,95
[monthlyincome=2]	0,29	0,77	0,15	1,00	0,70	-1,22	1,81	1,34	0,29	6,11
[monthlyincome=3]	0,88	0,68	1,71	1,00	0,19	-0,44	2,21	2,42	0,64	9,08
[monthlyincome=4]	0,88	0,70	1,55	1,00	0,21	-0,50	2,25	2,40	0,61	9,53
[monthlyincome=5]	0,00	0,00	0,00	0,00	0,00	0,00	1,00	0,00	0,00	0,00

Significant at *p<0.05, **p<0.01 — Source: own research

The findings have shown that the irregular organic products consumers with the highest degrees of education (Master's degree and PhDs) do not perceive organic products as significantly healthier than the conventional ones. Therefore the findings are in line with the research showing that the consumers with the highest educational levels were less willing to consume organic products than those with lower education (Thompson 1998; Thompson & Kidwell 1998). On the other hand, the findings of Tsakiridou et al. (2006) have shown that the education is found to be a key determinant only for primary school graduates.

4. Conclusion

The market of consumers of organic products in the Republic of Serbia is dominated by females, the population under the age of 40, university graduates, household sizes of up to four members, with monthly household income of 500 to 1,000 euros. As for the place of residence, the most numerous are the consumers of organic products who live in the city. Our findings point out that the majority of consumers had a positive attitude towards nutritional values of organic products, in relation to the conventional products. The results show that older regular consumers over the age of 50 have expressed the willingness to pay 20–30% for organic the products, relative to the price of conventionally produced products, leading us to conclude that consumers are willing to pay a higher price for organic food increases with age. Based on the results of the ordinal logistic regression, the consumers' age and monthly income have indeed proved to be predictors of the willingness to pay for the organic products. The level of education predicted the consumers' assessment of the organic products nutritional properties. The findings show that respondents with the highest level of education, who are irregular consumers of organic products, are less likely to perceive the organic products as having much higher nutritional properties, in comparison with the conventional products. Having in mind that the consumers with the highest level of education should have a better understanding of the nutritional properties of organic products as they are potentially aware that there is still insufficient scientific evidence of much higher nutritional benefits (while proven to have fewer pesticide residues) in relation to conventionally produced food. As the organic market in our country gradually expands the knowledge and awareness of better informed and educated consumers can represent the potential for further growth of consumption of these products in our country even though insufficient consumer confidence in certification and control standards is still present (albeit to a lesser extent than in the previous years). The socio-demographic variables can give further insight into a profile of organic consumers and the success in this market depends on marketing efficiency and targeted marketing strategies for this niche market.

One of the limitations of this study is the choice of sample. This research was limited to the organic consumers from the Republic of Serbia. The elicited willingness to pay does not necessarily coincide with the actual willingness of the consumer to actually pay a higher price for organic products at the point of sale. The willingness to pay a higher price for organic products stated here represents a conditional elicitation given for the research purposes. Having in mind that organic market in Serbia is evolving this research can provide a good basis for further research in this field of study.

References

Akgungor S., Miran B., & Abay C. (2010) Consumer Willingness to Pay for Organic Food in Urban Turkey. Journal of International Food & Agribusiness Marketing, 22: 299-313. https://doi.org/10.1080/08974431003641455

Anić I.D., Jelenc L., & Šebetić N. (2015) Istraživanje demografskih obilježja i ponašanja kupaca ekoloških prehrambenih proizvoda u Karlovačkoj Županiji. Ekonomska misao i praksa, 24: 367-388.

Brčić-Stipčević V., & Petljak K. (2011) Research on organic food purchase in Croatia. Tržište, 23: 189-207. UDK 613.2:502]:658.89(497.5)

Cerjak M., Mesić Ž., Kopić M., Kovačić D., & Markovina J. (2010) What motivates consumers to buy organic food: Comparison of Croatia, Bosnia Herzegovina, and

Slovenia. Journal of Food Products Marketing, 16: 278-292. https://doi.org/10.1080/10454446.2010.484745

Eurostat (2020) Organic farming statistics. Available at https://ec.europa.eu/eurostat/statistics-explained/pdfscache/5461.pdf, accessed on 5.10.2018.

Haghjou M., Hayati B., Pishbahar E., Mohammadrezaei R., & Dashti G. (2013) Factors affecting consumers' potential willingness to pay for organic food products in Iran: Case study of Tabriz. Journal of Agricultural Science and Technology, 15: 191-202.

Jolly D. (1991) Differences between buyers and nonbuyers of organic produce and willingness to pay organic price premiums. Journal of Agribusiness, 9: 97-111. https://doi.org/10.22004/ag.econ.62304

Jovanović M., Joksimović M., Kašćelan Lj., & Despotović A. (2017) Consumer attitudes to organic foods: Evidence from Montenegrin market. Agriculture and Forestry, 63: 223-234. https://doi.org/10.17707/AgricultForest.63.1.26

Kambovski, V. (2021) The right to life in the light of the environmental justice. Environment Yearbook. No. 4, Human rights protection: from childhood to the right to a dignified old age: human rights and institutions / [editor Zoran Pavlović]. – Novi Sad: Provincial Protector of Citizens – Ombudsman; Belgrade: Institute of Criminological and Sociological Research.

Kuhar A., & Juvančić L. (2010) Determinants of purchasing behaviour for organic and integrated fruits and vegetables in Slovenia. Agricultural Economics Review, 11: 70-83.

Millock K., Wier M., & Andersen L.M. (2004) Consumer's demand for organic foods-attitudes, value and purchasing behavior. In: European Association of Environmental and Resource Economists Conference, Budapest, 15-28 June, 2004.

Ministry of Agriculture, Forestry and Water Management of the Republic of Serbia. Directorate for National Reference Laboratories, Organic Production Group (2019): Organic Statistics. Available at http://www.dnrl.minpolj.gov.rs/lat/o_nama/o_nama.html, accessed on 5.10.2022.

Misra S., Huang C.L., & Ott S.L. (1991) Consumer willingness to pay for pesticide-free fresh produce. Western Journal of Agricultural Economics, 16: 218-227. https://doi.org/10.22004/ag.econ.32604

Mršević, Z. & Janković, S. (2021) Build back better – principle of saving lives. Environment Yearbook. No. 4, Human rights protection: from childhood to the right to a dignified old age: human rights and institutions / [editor Zoran Pavlović]. – Novi Sad: Provincial Protector of Citizens – Ombudsman; Belgrade: Institute of Criminological and Sociological Research.

Muhammad S., Fathelrahman E., & Ullah R.U. (2015) Factors Affecting Consumers' Willingness to Pay for Certified Organic Food Products in United Arab Emirates. Journal of Food Distribution Research, 46: 37-45. https://doi.org/10.22004/ag.econ.199045

Rosner B. (2011) Fundamentals of Biostatistics (7th ed.). Brooks/Cole, Boston, MA.

Sekovska B., Vlahović B., & Bunevski G. (2012) Consumption of Organic Food in Macedonia and Serbia: Similarities and Differences. In: Klopčić M., Kuipers, A. and Hocquette, J.F. (Eds): Consumer attitudes to food quality products. Wageningen Academic Publishers, Wageningen: 239-247. https://doi.org/10.3920/978-90-8686-762-2

Sriwaranun Y., Gan C., Lee M., & Cohen D. (2015) Consumers' willingness to pay for organic products in Thailand. International Journal of Social Economics, 42: 480-510. https://doi.org/10.1108/IJSE-09-2013-0204

Šego, M. & Žagar, D. (2022) Climate change and children rights to live in healthy Environment Yearbook. No. 5, Human rights protection: from childhood to the right to a dignified old age: human rights and institutions / [editor Zoran Pavlović]. – Novi Sad: Provincial Protector of Citizens – Ombudsman; Belgrade: Institute of Criminological and Sociological Research.

Thompson G. D. (1998) Consumer Demand for Organic Foods: What we know and what we need to know. American Journal of Agricultural Economics, 80: 1113-1118. https://doi.org/10.2307/1244214

Thompson G.D., & Kidwell J. (1998) Explaining the choice of organic produce, cosmetic defects, prices and consumer preferences. American Journal of Agricultural Economics, 80: 277-287. https://doi.org/10.2307/1244500

Tsakiridou E., Konstantinos M., & Tzimitra-Kalogianni I. (2006) The influence of consumer's characteristics and attitudes on the demand for organic olive oil. Journal of International Food & Agribusiness Marketing, 18: 23-31. https://doi.org/10.1300/J047v18n03_03

Vapa-Tankosić J., Ignjatijević S., Kranjac M., Lekić S., & Prodanović R. (2018) Willingness to pay for organic products on the Serbian market. International Food and Agribusiness Management Review, 21: 791-801. https://doi.org/10.22434/IFAMR2017.0068

Vapa-Tankosić J. (2019) Determinante ponašanja potrošača na tržištu organskih proizvoda. Univerzitet Union u Beogradu, Beogradska Bankarska Akademija-Fakultet za Bankarstvo, Osiguranje i Finansije, Belgrade.

Vehapi S. (2015) Istraživanje motiva potrošača koji utiču na kupovinu organske hrane u Srbiji. Ekonomske teme, 53: 105-121.

Vlahović B., Puškarić A., & Jeločnik M. (2011) Consumer attitude to Organic Food Consumption in Serbia. Petroleum Gas University of Ploiesti Bulletin, 18: 45-52. https://doi.org/10.5937/ekoPolj1703049P

Wier M., O'Doherty J.K., Andersen L.M., & Millock K. (2008) The character of demand in mature organic food markets: Great Britain and Denmark compared. Food Policy, 33: 406-421. https://doi.org/10.1016/j.foodpol.2008.01.002

Yiridoe E.K., Bonti-Ankomah S., & Martin R.C. (2005) Comparison of consumer perceptions and preferences toward organic versus conventionally-produced foods: a review and update of the literature. Renewable Agriculture and Food Systems, 20: 193-205. https://doi.org/10.1079/RAF2005113

Zakowska-Biemans S. (2011) Polish consumer food choices and beliefs about organic food. British Food Journal, 113: 122-137. https://doi.org/10.1108/00070701111097385

Zámková M., & Prokop M. (2014) Comparison of Consumer Behavior of Slovaks and Czechs in the Market of Organic Products by Using Correspondence Analysis. Acta Universitatis Agriculturae et Silviculturae Mendelianae Brunensis, 62: 783-795. https://doi.org/doi: 10.11118/actaun201462040783