

MARIUSZ MACIEJCZAK

Warsaw University of Life Sciences – SGGW, Poland

FACTORS DETERMINING THE PURCHASE OF WINE FROM CLIMATE CHANGE ADAPTED PRODUCTION¹

Key words: sustainable wine, consumers knowledge, climate-adapted vineyards

ABSTRACT. The paper aims to make an attempt to identify the factors that determine the purchase of wine that comes from vineyards applying appropriate measures to adopt to climate change. The literature review indicates the growing awareness of wine consumers to issues related to climate change. At the same time, winegrowers are increasingly implementing strategies at a farm level to adjust production to changing climate conditions. These processes can be explained by the complex adaptive system approach. The conducted empirical research is based on a questionnaire distributed among 164 randomly selected Polish consumers investigated in the first half of 2018. The results show that consumers are willing to pay a higher price for wine that comes from vineyards using climate adapted production methods. The factors that significantly influence the purchase of wine from climate-adapted production are, accordingly, monthly spending on wine and the price of wine along with a label indicating eco-friendly methods of production. Whereas those with lower importance are country of origin, type of wine, place and frequency of purchase. The main recommendation is systemic action related to climate change adaptation of production and its appropriate communication to consumers, as their knowledge plays a key role.

INTRODUCTION

The impact of climate change is widely recognized as one of the major challenges of the XXI Century. Global warming effects together with vulnerability and extreme climatic phenomena are meta contexts that influence the conditions of production and the consumption of goods and services. As argued by Liu Zhenmin and Patricia Espinosa [2019], the sustainability paradigm, widely accepted as an answer to these challenges, calls for changes aiming at developing a dynamic and adaptive system able to be resilient and further develop a healthy environment, while taking synergies and tradeoffs into account. Barbara Gołębiewska and Tomasz Pajewski [2018] emphasize that such a system should

¹ This paper is based on the results of the project VITISMART (Towards a sustainable viticulture: Improved grapevine productivity and tolerance to abiotic and biotic stresses by combining resistant cultivars and beneficial microorganisms). The financing of this project by the ERA-NET CO-FUND FACCE SURPLUS programme through the Polish National Centre for Research and Development (NCBiR) is acknowledged.

not only take the welfare effects perceived from a private point of view into account, but also the public perspective associated with positive and negative externalities.

This requires the imposition of adaptative measures that will be effective on both sides of the market. The supply side should minimize its negative impact on the environment and accept the need for sustainability, circularity and shortening supply chains [Kiss et al. 2019]. While the demand side needs to firstly take the environmental impact of the goods and service used into account [Fischer et al. 1994]. Such a complex system significantly affects several spheres of economic activity. Many sectors and branches of the economy are under the influence of climate change factors and need to adjust to them. On the contrary, these very factors and their contexts become driving forces for the development of many others. Those sectors pro-actively use opportunities connected to climate change [Maciejczak, Mikiciuk 2019].

The sector that, on the one hand, is negatively impacted and, on the other, is introducing innovative developments on the wave of climate changes is winegrowing and winemaking [Santini et al. 2013]. Hannah Lee et al. [2013], proves that because of both its production and market sensitivity viticulture and winemaking can be recognized as one of the sectors showing a direction of changes in food production systems. In this context, the vineyards managed and the wines produced in a sustainable way can be explained through production practices that by using appropriate methods and materials minimize the negative environmental impact while taking economic and social requirements into account.

Analyzing the adjustments implemented in viticulture and winemaking under climate change conditions, there are differed approaches and measures that either go through the whole system perspective or only address its selected elements. The system approach is considered when grape production and wine making follows the requirements of particular quality schemes that primarily take environmental concerns into account. These could be organic, biodynamic or agroecological schemes. Rosa Misso and Giovanna Catullo [2012] argue that, in the case of the organic system, the dynamics between consumer needs and requirements and producer approaches and adaptation actions are driven by environmental and health concerns. Similar factors were identified by Joanna Poczta [2016] as well as Zbigniew Głąbiński and Czesław Koźmiński [2019] in the case of developing wine tourism. Both pro-environmental quality schemes and additional activities such as eco - tourism increase the market competitiveness of the wine sector through directing it to more climate change resilient vectors. New forms of activities that, to a lesser extent, take economic functions and focus more on environmental and social benefits into account are also implemented. Helena Hejmalová and Radka Šperková [2011] argue that local and home wine production are forms of individual responses to environmental challenges. Also, Małgorzata Pink and Katarzyna Kokoszka [2018] have showed that urban vineyards, except new cultural functions, could be considered as forms of adjustments to climate changes following trends of modern consumption.

All the forms of actions undertaken as a response to climate change resulted from adaptive decision making that required the consideration of complex interactions between environmental, social, economic and also cultural or technological aspects [Lereboullet et al. 2013]. This indicates the need for a holistic approach that will bridge several factors into a complex adaptive system which the primary approach will not be maximizing individual utility today, but adjusting to new conditions in a long term perspective, taking trade-offs arising from the needs of future generations into account, too. In this context, one could agree with the opinion of Lucio Cecchini et al. [2018], who argue that despite the need for a holistic view, the key factor affecting real changes is the acceptance of specific actions by consumers expressed in their willingness and ability to pay.

The literature review proved that most of research focusing on the adjustment of the wine growing and wine making sector to environmental constraints take the broader perspective of sustainable needs, including climate change issues as one of the determinants into account [see: Wells et al. 2010]. From this point of view, consumer willingness to accept or buy is also analyzed [Cecchini et al. 2018]. Thus, the question can be asked: what are the factors determining the purchase of wine from vineyards that uses methods solely dedicated to climate change adaptation?

OBJECTIVES AND METHODS

The primary objective of this paper is threefold. Firstly, based on the literature review, to identify factors and relations between them that determine the purchasing of wine from different ranges of sustainable vineyards. Secondly, based on own investigations, to make an attempt to identify factors determining the purchase of wine from vineyards that use methods solely dedicated to climate change adaptation. Finally, to provide recommendations for producers and traders whose actions can be undertaken to strengthen the acceptance of wines coming from climate change adjusted production.

With regard to the assumed objectives different methods of data collection and analysis were applied. Secondary data were collected based on a literature review. The research covered scientific publications indexed in the Web of Science, Scopus and Google Scholar databases. The primary data were collected using the direct survey approach. The consumer survey was conducted using a questionnaire covering 15 closed research questions and 6 metric questions. The questionnaire was subject to initial verification during a pilot study. The survey was conducted among Polish consumers using the CATI method based on randomized sampling, in the first half of 2018. As a result of the survey, 178 responses were obtained, of which 14 questionnaires were rejected, due to incompleteness. Thus, 164 surveys were included in the analyses, out of which the willingness to pay an additional premium for wine produced from grapes, the cultivation of which include climate change adaptation practices was declared by 153 respondents. The data were analyzed using descriptive statistics. Also, the econometric model of linear multivariate regression was applied according to the procedure proposed by Jeffrey Wooldridge [2014]. For this purpose the MS Excel 2010 analysis package was used.

RESULTS AND DISCUSSIONS

LITERATURE EVIDENCE ON FACTORS AFFECTING THE PURCHASE OF SUSTAINABLE WINE

Research suggests that the purchase of sustainable wine, as other food products with sustainable characteristics, is driven by many factors and preferences of both explicit and implicit nature [Verain et al., 2012]. As argued by Giovanni Sogari et al. [2016], there are factors with high interdependence that describe general behavior on the wine market. These factors occur jointly, as systemic elements, and affect the purchasing decision for wine also with sustainable references. Such factors consist of variables related to market segmentation. Factors related to socio-economic characteristics of buyers, such as: age, gender, frequency of purchase, and place of purchase play an important role, but they are usually closely associated with product characteristics, such as: price, sensory attributes, brand, origin or awards gained. Positive synergy effects of these factors were identified i.a. by Bastian Klohr et al. [2014] or Ricardo Sellers-Rubio and Juan Nicolau-Gonzalbez [2016].

Although Pedro Lopes et al. [2014] claim that the purchase process of sustainable wine is similar to conventional ones, there is research evidence, which prove that in the case of environmentally-friendly products particular consumer preferences play more important roles. They not only concern the environment but also socially-related issues, which jointly influence purchasing behavior. Rachel Dodds et al. [2013] showed that sustainable beliefs, concerns and lifestyle are driving factors when buying sustainable wine. Marianne McGarry-Wolf and Lindsey Higgins [2017] indicate as important the facts that there is concern as to water usage during grape and production and Rachel Dodds et al. [2013] recognized concerns related to agricultural land protection. Margarita Mollá-Bauzá et al. [2005] found out that similarly concern for one's own health influences the perception and purchasing decisions of sustainable wines. Additionally, as suggested by Marianne McGarry-Wolf and Lindsey Higgins [2017] the attributes that are important while making the decision and buying sustainable wine are also issues related to the well-being of employees.

At the same time, it should be emphasized that the above identified factors related to environmental and social beliefs are closely related to the level of knowledge of decision-makers. From one point of view, this is knowledge that the decision maker has already gained. From the other, these are all kinds of direct and indirect claims to the characteristics of wine that affect the level of knowledge of a decision maker. Riccardo Vecchio [2013] found out that the more consumers know about environmental characteristics of the wine the more they are willing to spend on it and they will often chose such a wine. Also, Isabel Schäufole and Ulrich Hamm [2017] suggest that if the consumer is able to recognize the distinctiveness of sustainable wine and is able to recognize particular characteristics, its preference to such wine increases. Therefore, it is essential to communicate information about sustainable characteristics of wine to consumers and through this process increase the willingness to buy such products. Giovanni Sogari et al. [2015] as well as Crystal Eustice et al. [2019] analyzed the impact of different labels on wine buyer attitudes and found that sustainable-labelled wines are raising the sustainable awareness of decision

makers and encouraging them to buy such wines. Another tool to communicate the sustainable characteristics of wine and also impact consumer knowledge is the certification of such wines and placing certificates on labels. Giovanni Sogari et al. [2016] argues that dedicated sustainable certification schemes that claim a positive impact of wine production on the environment are becoming credence attributes which compete with other characteristics described on the label indicating an upper quality of wine and can have a significant impact on choice, quality perception and willingness to pay.

Finally, with regard to the decision makers' knowledge and the communication of supreme quality of sustainable wine, the question arises concerning the special impact of information on grape production and wine processing methods. This is important because such information might also carry the message about the undertaken action with regard to climate change. Limited literature on this aspect suggests that there is some influence. Pascale Bazoche et al. [2008] argue that the dissemination of information about the environmental methods of production does not impact consumer willingness to pay for wines coming from such cultivations. Nonetheless, Antonino Galati et al. [2019] confirms that the production method indicated on the label of sustainable wine has an impact on the purchasing behavior of consumers, and its significance is similar to that of the significance connected to sensory characteristics. A similar opinion is provided by Anthony Osadebamwen et al., [2015] who found out that claiming environmentally friendly production circumstances of sustainable wines might affect consumer perception about private and public benefits inherent in such wines.

FACTORS DETERMINING THE PURCHASE OF WINE FROM VINEYARDS ADAPTED TO CLIMATE CHANGE

Own research aimed at making an attempt to identify factors determining the purchase of wine from vineyards adapted to climate change. The research sample consisted of 164 interviews. Among the surveyed Poles, 6.7% stated that they do not want to pay a higher price for wine made from grapes that come from vineyards in which measures adapting them to climate change were applied. Most respondents (46.4%) were willing to pay a higher price in the range of 10-20%. 38.4% of respondents declared to pay less than 10% of the premium. Accordingly, above the most frequently indicated range, namely 21-50% of the premium, 7.9% of the surveyed were willing to pay. Only 0.6% of respondents declared to pay more than half of the standard price for additional quality attributes connected to climate change measures in grape production. The share of respondents indicating a willingness to pay a higher price for wine that comes from grapes, the cultivation of which would take practices adapting to climate change into account is presented in Figure 1.

Research proved that the majority of those surveyed (93.3%) is willing to pay a premium price for wine that comes from grapes cultivated taking practices adapting to climate change into account. Among 153 surveyed Poles, 49% were males and 51% were females. Most of them inhabited cities - 67.3%, while only 32.7% lived in rural areas. Only adults were surveyed, among which 42.5% of respondents indicated an age range between 18-30. The largest group (52.9%) were those aged 31-60, and the smallest aged 60+ (4.6%). Taking into

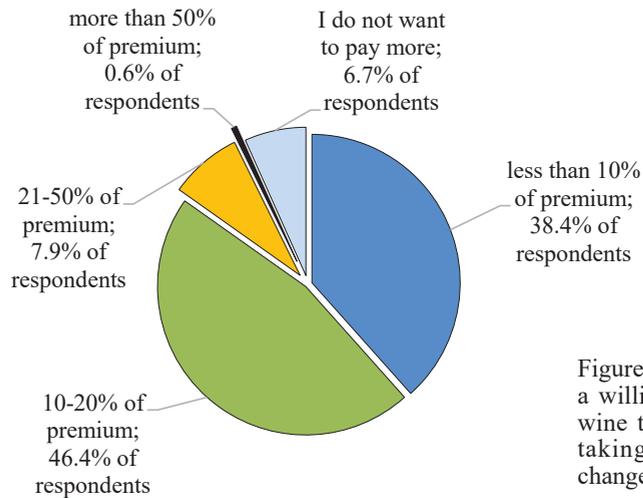


Figure 1. Share of respondents indicating a willingness to pay a higher price for wine that come from grapes cultivated taking practices adapting to climate change into account, N = 164

Sources: own research

Table 1. The demographic characteristic of the research sample

| Factor | Scale | Number of answers | Percentage of response |
|---|---------------------------------------|-------------------|------------------------|
| Gender | Man | 75 | 49.0 |
| | Woman | 78 | 51.0 |
| Place of residence | City | 103 | 67.3 |
| | Rural | 50 | 32.7 |
| Age | 18-30 | 65 | 42.5 |
| | 31-60 | 81 | 52.9 |
| | 60+ | 7 | 4.6 |
| Education | Vocational | 7 | 4.6 |
| | Secondary | 55 | 35.9 |
| | Higher | 91 | 59.5 |
| Professional activity | Non-working | 5 | 3.3 |
| | Working | 93 | 60.8 |
| | Studying | 48 | 31.4 |
| | Retired | 7 | 4.6 |
| Disposable income per person in the household | Below the national average | 9 | 5.9 |
| | Close to the national average | 40 | 26.1 |
| | Above the national average | 76 | 49.7 |
| | Definitely above the national average | 28 | 18.3 |

Sources: own investigation, N = 153

account the education of the respondents, most of them had a higher education (59.5%), then secondary education (35.9%), and only 4.6% of respondents had a vocational education. Most respondents (60.8%) were professionally active, while 31.4% was still studying. As much as 4.6% declared retirement status, while 3.3% declared to be unemployed. Considering disposable income per person in the household, 49.7% of respondents indicated that it is higher than the national average, and as much as 18.3% that it is definitely above the national average. Only 5.9% regarded it as lower than the national average. The demographic characteristics of the research sample is presented in Table 1.

A regression model indicating factors determining the purchase of wine from vineyards adapted to climate change was calculated. The results suggest that the market factor plays a crucial role in determining purchasing behavior. Monthly spending on wine (41%) and the price of wine (31%) influence the decision to pay a higher price for wine from vineyards adapted to climate change. Significant importance is also played by information signals which claim upper quality. The label indicating eco-friendly methods of production (38%) might be responsible for the willingness to pay a higher price. The place and frequency of purchase are less important in the decision making process, 23% and 10% respectively. Factors related to product characteristics have the lowest impact. The model shows the impact of country of origin and wine type, 13% and 6%, respectively.

The obtained results highlight the importance of information about climate change adopted practices and their role in building consumer knowledge. As argued by Pedro Lopes et al. [2014], such information can be associated with extrinsic attributes such as labels. Nonetheless, one needs to remember that the primary goal of signaling a wine's environmental attributes is to reduce the asymmetry of information, not about the wine itself, but its contribution to sustainable changes. As confirmed by Isabel Schäufole and Ulrich Hamm [2017], the general awareness of wine consumers about sustainability issues is low.

Table 2. Regression model indicating factors determining the purchase of wine from vineyards adapted to climate change.

| Factor | Coefficient | Standard error | t Stat | p- value | Lower 95% | Upper 95% |
|---|-------------|----------------|--------|----------|-----------|-----------|
| Incept | 1.307 | 0.928 | 1.409 | 0.034 | -0.549 | 3.162 |
| Type of wine | 0.065 | 0.104 | 0.622 | 0.036 | -0.143 | 0.272 |
| Country of wine origin | 0.130 | 0.097 | 0.822 | 0.041 | 0.275 | 0.115 |
| Price | 0.311 | 0.108 | 1.305 | 0.009 | -0.075 | 0.357 |
| Frequency of purchase | 0.105 | 0.142 | 1.296 | 0.011 | 0.470 | 0.100 |
| Place of purchase | 0.236 | 0.159 | 2.112 | 0.004 | 0.018 | 0.654 |
| Monthly spending on wine | 0.415 | 0.217 | 2.371 | 0.021 | 0.080 | 0.950 |
| Label indicating eco-friendly methods of production | 0.386 | 0.160 | 2.408 | 0.004 | 0.062 | 0.709 |

Sources: own investigation, N = 153

The recommendation that resulted from this study indicates that while undertaking measures aiming at adopting to climate change in wine growing and wine processing and looking for market compensation, farmers and winemakers need to remember about a sufficient level of information that will strengthen the level of knowledge among decision makers. This information, however, cannot only be an attribute assigned to the product, e.g. in the form of a label, but should constitute a permanent element of consumer awareness.

CONCLUSIONS

The conducted research showed that the environmental characteristics of wine is an important factor for consumers during the decision making process. However, this process is not only determined by a sole factor, but many factors are related to each other. Thus, there is a decision model created that is characterized by being complex and adaptive. In this model, some product attributes, personal beliefs and the level of knowledge enhanced by market information jointly interact.

Under increasing climate change pressure, this paper contributes to the indication of the importance of factors determining the purchase of wine from vineyards adapted to climate change. Similarly to other research the purchase of wine from vineyards adapted to climate change is driven by market signals such as price and socio-economic factors like monthly spending or frequency of purchase. Knowledge-related factors, in particular quality claims on labels, are also among important factors.

This study is exploratory and has shown snapshot findings related to a randomly selected sample of Poles. In the future, wider studies that take the differences between countries into account are recommended to validate the presented results.

BIBLIOGRAPHY

- Bazoche Pascale, C. Deola, Louis-Georges Soler. 2008. *An experimental study of wine consumers' willingness to pay for environmental characteristics*. [In] European Association of Agricultural Economists (EAAE), 2008 International Congress, August 26-29, 2008, Ghent, Belgium, DOI 10.22004/ag.econ.43651.
- Cecchini Lucio, Biancamaria Torquati, Massimo Chiorri. 2018. Sustainable agri-food products: A review of consumer preference studies through experimental economics. *Agricultural Economics – Czech* 64: 554-565. DOI: 10.17221/272/2017-AGRICECON.
- Dodds Rachel, Sonya Graci, Soyoung Ko, Lindsay Walker. 2013. What drives environmental sustainability in the New Zealand wine industry? *International Journal of Wine Business Research* 25: 64-184. DOI: 10.1108/IJWBR-2012-0015.
- Eustice Crystal, Dan McCole, Michelle Ritty. 2019. The impact of different product messages on wine tourists' willingness to pay: A non-hypothetical experiment. *Tourism Management* 72: 242-248. DOI: 10.1016/j.tourman.2018.11.022.
- Fischer Gunter, Klaus Froberg, Martin L. Parry, Cynthia Rosenzweig. 1994. Climate change and world food supply, demand and trade: Who benefits, who loses? *Global Environmental Change* 4 (1): 7-23. DOI: 10.1016/0959-3780(94)90018-3.

- Galati Antonino, Giorgio Schifani, Maria Crescimanno, Giuseppina Migliore. 2019. "Natural wine" consumers and interest in label information: An analysis of willingness to pay in a new Italian wine market segment. *Journal of Cleaner Production* 227: 405-413. DOI: 10.1016/j.jclepro.2019.04.219.
- Głabiński Zbigniew, Czesław Koźmiński. 2019. Turystyka winiarska jako czynnik lokalnego rozwoju obszarów wiejskich województwa zachodniopomorskiego (Wine tourism as a factor of local rural development in the West Pomeranian Voivodeship). *Folia Turistica* 53: 263-284. DOI: 10.5604/01.3001.0013.7520.
- Gołębiewska Barbara, Tomasz Pajewski. 2018. Positive and negative externalities of management illustrated by the case of agricultural production. *Journal of Agribusiness and Rural Development* 2 (48): 113-120.
- Hejmalová Helena, Radka Šperková. 2011. Assessment of attractiveness of the wine-production industry in the Czech Republic. *Acta Universitatis Agriculturae et Silviculturae Mendelianae Brunensis* LIX (2): 89-98.
- Kiss Konrád, Csaba Ruskai, Katalin Takács-György. 2019. Examination of short supply chains based on circular economy and sustainability aspects. *Resources* 8: 161-174. DOI:10.3390/resources8040161.
- Klohr Bastian, Ruth Fleuchaus, Ludvig Theuvsen. 2014. Who is buying sustainable wine? A lifestyle segmentation of German wine consumers. [In] Proceedings of the 8th International Conference of the Academy of Wine Business Research, Geisenheim, Germany, 28-30 June 2014.
- Lee Hannah, Patrick R. Roehrdanz, Makihiko Ikegami, Shepard V. Anderson, Rebecca M. Shaw, Gary Tabor, Lu Zhi, Pablo A. Marquet, Robert J. Hijmans. 2013. Climate change, wine, and conservation. *Proceedings of the National Academy of Sciences* 110 (17): 6907-6912. DOI: 10.1073/pnas.1210127110.
- Lereboullet Anne-Laure, Gérard Beltrando, Douglas K. Bardsley. 2013. Socio-ecological adaptation to climate change: A comparative case study from the Mediterranean wine industry in France and Australia. *Agriculture, Ecosystems & Environment* 164: 273-285. DOI: 10.1016/j.agee.2012.10.008.
- Lopes Pedro, Richard Sagala, Thomas Dood. 2014. Extrinsic wine attributes importance on Canadian consumers purchase decisions for environmentally sustainable wines. [In] Proceedings of the 8th International Conference of the Academy of Wine Business Research, Geisenheim, Germany, 28-30 June 2014.
- Maciejczak Mariusz, Jakub Mikiciuk. 2019. Climate change impact on viticulture in Poland. *International Journal of Climate Change Strategies and Management* 11 (2): 254-264. DOI: 10.1108/IJCCSM-02-2018-0021.
- McGarry-Wolf Marianne, Lindsey M. Higgins. 2017. Segmenting the sustainable wine consumer. *Journal of Food Distribution Research* 48 (1): 109-110. DOI: 10.22004/ag.econ.274580.
- Misso Rosa, Giovanna Catullo. 2012. Organic wine between health and competitiveness. *International Journal of Sustainable Society* 4 (3): 266-279. DOI: 10.1504/IJSSOC.2012.047281.
- Mollá-Bauzá Margarita, Laura Martínez-Carrasco, Africa Martínez-Poveda, Manuel Pérez. 2005. Determination of the surplus that consumers are willing to pay for an organic wine. *Spanish Journal of Agricultural Research* 3: 43-51. DOI: 10.5424/sjar/2005031-123.
- Osadebamwen Anthony Ogbeide, Christopher Ford, Randy Stringer. 2015. The environmental benefits of organic wine: exploring consumer willingness-to-pay premiums? *Journal of Food Products Marketing* 21 (5): 482-502. DOI: 10.1080/10454446.2013.856054.
- Pink Małgorzata, Katarzyna Kokoszka. 2018. Winemaking and urban vineyards – functions and potential of the phenomenon. *Problems of Small Agricultural Holdings* 3: 65-77. DOI: 10.15576/PDGR/2018.3.65.

- Pocza Joanna. 2016. Uwarunkowania rozwoju turystyki winiarskiej w Polsce na przykładzie regionu zielonogórskiego (Conditions for the development of wine tourism in Poland on the example of the Zielona Góra region). *Turystyka Kulturowa* 5: 115-130.
- Santini Cristina, Alessio Cavicchi, Leonardo Casini. 2013. Sustainability in the Wine Industry: Key Questions and Research Trends. *Agricultural and Food Economics* 1: 9-23. DOI: 10.1201/b18226-3.
- Schäufele Isabel, Ulrich Hamm. 2017. Consumers' perceptions, preferences and willingness-to-pay for wine with sustainability characteristics: A review. *Journal of Cleaner Production* 147: 379-394. DOI: 10.1016/j.jclepro.2017.01.118.
- Sellers-Rubio Ricardo, Juan Luis Nicolau-Gonzalbez. 2016. Estimating the willingness to pay for a sustainable wine using a Heckit model. *Wine Economics and Policy* 5 (2): 96-104. DOI: 10.1016/j.wep.2016.09.002.
- Sogari Giovanni, Chiara Corbo, Martina Macconi, Davide Menozzi, Cristina Mora. 2015. Consumer attitude towards sustainable-labelled wine: an exploratory approach. *International Journal of Wine Business Research* 27 (4): 312-328. DOI: 10.1108/IJWBR-12-2014-0053.
- Sogari Giovanni, Cristina Mora, Davide Menozzi. 2016. Sustainable wine labeling: a framework for definition and consumers' perception. *Agriculture and Agricultural Science Procedia* 8: 58-64. DOI: 10.1016/j.aaspro.2016.02.008.
- Vecchio Riccardo. 2013. Determinants of willingness-to-pay for sustainable wine: Evidence from experimental auctions. *Wine Economics Policy* 2: 85-92. DOI: 10.1016/j.wep.2013.11.002.
- Verain Muriel C.D., Jos Bartels, Hans Dagevos, Siet J. Sijtsema, Marleen C. Onwezen, Gerrit Antonides. 2012. Segments of sustainable food consumers: a literature review. *International Journal of Consumer Studies* 36 (2): 123-132. DOI: 10.1111/j.1470-6431.2011.01082.x.
- Wells Victoria K., Cerys Ponting, Peattie Ken. 2010. Behaviour and climate change: consumer perceptions of responsibility. *Journal of Marketing Management* 27: 808-833. DOI: 10.1080/0267257X.2010.500136.
- Wooldridge Jeffrey M. 2014. *Introductory econometrics. A modern approach*. Fifth edition. Mason, OH: Cengage Learning.
- Zhenmin Liu, Patricia Espinosa. 2019. Tackling climate change to accelerate sustainable development. *Nature Climate Change* 9: 494-496. DOI: 10.1038/s41558-019-0519-4.

CZYNNIKI DETERMINUJĄCE ZAKUP WINA Z PRODUKCJI DOSTOSOWANEJ DO ZMIAN KLIMATU

Słowa kluczowe: wino ze zrównoważonych upraw, wiedza konsumentów,
winnice przystosowane do zmiany klimatu

ABSTRAKT

Celem artykułu jest próba zidentyfikowania czynników decydujących o zakupie wina pochodzącego z winnic, które stosują odpowiednie środki w celu dostosowania się do zmian klimatu. Z przeglądu literatury wynika, że wśród konsumentów wina rośnie świadomość na problemy związane ze zmianami klimatu. Jednocześnie plantatorzy winorośli coraz częściej wdrażają strategię na poziomie gospodarstwa, aby dostosować produkcję do zmieniających się warunków klimatycznych. Procesy te można wyjaśnić działaniem złożonych systemów adaptacyjnych. Przeprowadzone badania empiryczne oparto na kwestionariuszu ankiety, na którą odpowiedziało 164 losowo wybranych polskich konsumentów, którzy zostali zbadani w pierwszej połowie 2018 roku. Wyniki pokazują, że konsumenci są skłonni zapłacić wyższą cenę za wino pochodzące z winnic, w których stosuje się metody produkcji dostosowane do klimatu. Czynniki, które znacząco wpływają na zakup wina z produkcji dostosowanej do klimatu są głównie miesięczne wydatki na wino oraz cena wina wraz z informacją na etykiecie, wskazującą na prośrodowiskowe metody produkcji. Natomiast czynniki o mniejszym znaczeniu to: kraj pochodzenia, rodzaj wina, miejsce i częstotliwość zakupu. Główną rekomendacją jest systemowe działanie związane z dostosowaniem produkcji do zmian klimatu i ich odpowiednim zakomunikowaniem konsumentom, ponieważ ich wiedza odgrywa kluczową rolę.

AUTHOR

MARIUSZ MACIEJCZAK, DR HAB.
Warsaw University of Life Sciences – SGGW
Faculty of Economic Sciences
Institute of Economics and Finance
166 Nowoursynowska St., 02-787 Warsaw, Poland