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Organic vs local claims: substitutes or complements for wine consumers? A marketing analysis with a discrete choice experiment

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Jel codes: C23, D12, Q130

1. Introduction

Choosing a wine is often challenging for consumers because wine is an “experience” good: its quality cannot be assessed or understood without tasting it (Bruwer *et al.*, 2011). Because of this particular characteristic, information provided to consumers before they drink the wine plays a fundamental role in their choice (Lockshin *et al.*, 2006; Sáenz-Navajas *et al.*, 2013); which is why the bottle label seeks to provide important clues as to the origin, grape variety and brand of any particular wine. In addition, producers can adopt a number of production strategies in order to achieve market power (e.g. organic production). The influence of the place of origin and organic production on customers’ wine choices already draw the attention of researchers, howbeit in several studies their effect was analyzed not in conjunction (Lockshin and Corsi, 2012). A number of differences on their impact, depending on the country of study and its cultural context, were identified (Hertzberg and Malorgio, 2008) in the literature.

The indications that appear on wine bottle labels can be

Abstract

This study aims to understand people’s preferences concerning five different extrinsic characteristics of wine and among them organic production. Consumers’ preferences were assessed by means of a choice experiment on a sample of people living in Friuli Venezia Giulia (north-eastern Italy). The wines considered in the hypothetical market were differentiated considering the area of origin, landscape features, production method (organic or conventional), wine denomination of origin label and price. According to our results, denomination of origin labelling is the most important factor considered by all respondents. More than one quarter of the sample is interested in purchasing organic wine and willing to pay more for it. In this respect, organic production combined with a good communication strategy in order to increase the knowledge about its benefits can be a good marketing diversification strategy. Therefore, organic production seems to be a necessary (for at least 27% of people) but not sufficient condition in characterizing wine quality: it should be supported by an appropriate promotion of the product characteristics.

Keywords: wine, consumer preferences, organic agriculture, choice experiment, marketing.

Résumé

Cette étude vise à appréhender les préférences des consommateurs concernant cinq différentes caractéristiques extrinsèques du vin, parmi lesquelles l’origine biologique. Les préférences des consommateurs ont été évaluées à travers une expérimentation des choix sur un échantillon d’individus qui habitent la région Frioul Vénétie Julienne (Nord-est de l’Italie). Les vins retenus dans ce marché hypothétique ont été différenciés compte tenu de la zone d’origine, des caractéristiques du paysage, du mode de production (bio ou conventionnel), de l’étiquette AOC et du prix. Nos résultats indiquent que l’étiquette AOC est le principal facteur considéré par tous les interviewés. Plus d’un quart de l’échantillon est intéressé par l’achat de vin bio et est disponible à payer un prix plus élevé pour ce produit. A cet égard, la production biologique, accompagnée d’une capacité de communication efficace pour faire connaître davantage ses bienfaits, peut être une bonne stratégie de diversification commerciale. Par conséquent, la production biologique semble être une condition nécessaire (pour au moins 27% des interviewés) mais non suffisante pour caractériser la qualité du vin: elle devrait être soutenue par une valorisation appropriée des caractéristiques des produits.

Mots-clés: vin, préférences des consommateurs, agriculture biologique, expérimentation des choix, marketing.

classified according to Sáenz-Navajas, Campo, Sutan, Ballester, and Valentin (2013) as extrinsic factors in determining the perception of wine quality: such factors being elements more closely related to a commercial description, like advertising and packaging, brand, wine origin, wine ageing and landscape. Information reported on the wine labels, however, is only one of the tools used by wine producers to improve the knowledge about their efforts to diversify their production in the face of growing concern among consumers about the characteristics of the product they are about to buy. Given the production and marketing costs of providing such information, it is crucial to understand the relative importance of these marketing diversification strategies and the premium price that they can add to the final product.

In addition to the “classic” information reported on wine labels (country of origin, locally grown designation grape variety and brand), the organic certification logo is a recent introduction in the European wine market. The Reg. (EC) N. 213/2012, which provides the right to use the term “organic” for wine, entered into force only in August 2012 to stimulate growth in this sector and to provide consumers with a clearly recognizable and trustworthy organic European Union logo. With respect to other marketing diversification strategies, like place of production (Regulation

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510/2006 and 1151/2012), which have a relatively more consolidated history - protected designations of origin (PDO) and protected geographical indication (PGI) logos are nowadays more familiar to consumers. Organic production might be of particular interest for mature products for the following reasons. First, organic production allows the producer to act independently of the location of the vineyards, which the PDO or PGI do not. Second, in the wine market, such production seems to be particularly effective in the case of mature products, and seems to become an efficient marketing strategy only if the wine has already achieved a good reputation in terms of quality (Loureiro, 2003). Along with these potential advantages, “organic” production should be considered carefully because of the not negligible increases in production costs that it implies. In this respect, it is of crucial importance to understand if “organic” production applied to a mature wine market brings more benefits, or in other words, a higher premium price, for the producer than other more classic diversification measures.

In this respect, the studies published so far tried to understand whether consumers value organic production in the wine market (Bazoche *et al.*, 2014; Remaud *et al.*, 2008) but the results obtained are quite controversial. On the one hand some authors argue that most consumers are willing to pay a premium price for organic wine (Gerrard *et al.*, 2013; Krystallis and Chrysosoidis, 2005; Pagliarini *et al.*, 2013; Wiedmann *et al.*, 2014); on the other, there is also a good deal of evidence which suggests that they are not (Lockshin and Corsi, 2012). Despite the growing importance of the production of organic wines, organic winemakers are facing a number of difficulties (Castellini *et al.*, 2015; Crescimanno *et al.*, 2002; Rossetto, 2007). One of the biggest problems is that organic wine is not considered superior *a priori* by all consumers, especially in the context of Old World production (Platania and Privitera, 2010). In fact, compared to other goods produced by means of organic practices, a complex mix of characteristics determines what is perceived as a “good” wine by consumers (Aertsens *et al.*, 2009; Mann *et al.*, 2012).

Other “extrinsic” characteristics have received attention in the wine marketing literature and country of origin has been shown to be important for wine in several studies (Kallas *et al.*, 2013; Marangon and Troiano, 2005). In fact, the research indicates that the place of origin affects consumers’ preferences significantly and that consumers are willing to pay a positive premium price for the proximity of production (local and national) of the wine (Lecocq and Visser, 2006).

While some evidence exists in the research literature about single marketing measures, not many authors have investigated the relative importance of organic production in relation to other extrinsic characteristics in the context of wine marketing. The organic production method and country of origin have been investigated with regard to other food products (Costanigro *et al.*, 2014; Gracia *et al.*, 2014,

Mauracher *et al.*, 2013), while it would seem only Bernabeu *et al.* (2008) have investigated this topic in terms of the wine market. However, their study compares these two characteristics without considering the estimation of their contribution in economic terms to the final price of the product (namely their premium price).

This article, therefore, is an effort to fill this gap. The objective of our study is to evaluate the relative importance of organic production and local claims in influencing purchase decisions. In particular, we are interested in understanding if these characteristics are perceived as substitutes or as complements by consumers. Our comparison considered four characteristics along with organic production. Given that organic production is related to both sustainability and health in customers’ perception, we decided to consider other attributes connected with wine quality but that have no relationship with health and sustainability (area of production, traditional landscape preservation and PDO). The fifth and last attribute considered was price, a fundamental attribute both for the realism of the hypothetical market used and for deriving willingness to pay (WTP) measures.

As a case study we considered a white wine called “Friulano” produced from the Sauvignon Vert (also known as Sauvignonasse or Friulano) grape from Friuli Venezia Giulia, a region of North-Eastern Italy, bordering Austria and Slovenia to the north and east, the Veneto region to the west and the Adriatic sea to the south. From a methodological perspective we applied a choice experiment, a technique that allows us to understand the relative importance of attributes, the premium price for each attribute and to analyze consumer heterogeneity for market segmentation. To this end, by means of a latent class approach, it was possible to cluster the interviewees according to their affinity of tastes.

The rest of the paper is organized as follows. The second section of this paper is devoted to describing the methodology applied, while the third section presents the results. A discussion of the findings and conclusions is then provided in section four.

2. Material and methods

The choice experiment (CE) methodology has become an increasingly widely applied technique for the valuation of consumers’ preferences in several fields, including marketing, environmental economics, transport studies and health economics (Hensher *et al.*, 2005). The CE methodology is grounded in random utility theory, consumer theory and psychology (Thurstone, 1927; Luce, 1959; Lancaster, 1966; McFadden, 1974).

The main assumption is that consumers are utility maximisers and therefore among a bundle of products, they will choose the product that maximises their utility. In this respect according to Lancasterian demand theory (Lancaster, 1966), the utility that people gather from a good or service is not derived from the good itself but from its characteristics. CE translates this idea into practice creating a hypothetical market, where consumers must choose their preferred op-

tion repeatedly from among a bundle of goods (choice set). Each choice set contains a fixed number of different goods and usually a “non-of-these” option. Each good is a choice alternative and it is differentiated by some key characteristics (attributes) that can assume different levels both qualitatively or quantitatively. Data are collected by means of a questionnaire where the respondent is introduced to the hypothetical market and the different choice sets are presented. The total combination of the attributes and levels is usually very high and therefore, in order to reduce the cognitive burden to respondents the number of choice sets that will be presented to the respondents, are obtained following a procedure called experimental design (Hensher *et al.*, 2005).

Considering the aim of our research, five attributes were selected: region of origin, landscape features, production method, wine denomination of origin label and price.

The region of origin is an important choice factor in the consumer wine-buying decision process. In fact, wine characteristics are closely linked to an area or terrain, whose soil and microclimate play an important role in determining the distinctive qualities of the product. We distinguished between the Collio area in Friuli Venezia Giulia Region (Italy), the remaining part of the Friuli Venezia Giulia Region and other Italian Regions. Collio is a hilly area located in the Eastern part of Friuli Venezia Giulia. The morphological features of Collio favour quality wine production, and there are 1,500 hectares of high quality vineyards. This economic activity is of fundamental importance in the development of the local socio-economic system. Moreover a wine route has been created in this area to enhance the value of the local wine production.

With reference to the landscape, some recent studies have highlighted that its quality can affect consumer buying habits. This influence has been demonstrated both in the case of a blind tasting experiment (Tempesta *et al.*, 2010) and in the case of a choice experiment (Tempesta *et al.*, 2013). In particular the blind tasting experiment demonstrated that the presence of cultural heritage elements (Venetian villas) in the background of an image is able to modify the perception of the wine taste. Following this result it is possible to hypothesize that landscape quality can mirror the quality of the *terroir* in which the vineyard is cultivated.

The third attribute regarded the production method. We considered two different methods: organic and conventional. Organic production means that the production process has followed the rules established by EU Regulations (CE) N. 834/2007 and (CE) N. 203/2012 that specify the methods for organic grape and wine production, while “conventional” production does not obey these rules.

Geographical indications were the fourth attribute. They protect the identity of quality wines produced in particular regions. This attribute has three levels: table wine, Protected Designation of Origin (PDO), Protected and Guaranteed Designation of Origin (PGDO).





The price attribute consists of three different price levels: € 4, 8 and 12 per bottle (750 ml). The price vector selected was chosen to reflect the current price levels found in supermarkets and wineries for this product, which ranged from € 4 to 12.

A D-efficient design was generated using Ngene[®] software (ChoiceMetrics, 2012). The generated design consisted of 18 profiles (choice options) organized into six choice sets. Therefore, each respondent had to face six choice situations with three profiles each plus the opt-out alternative (“none of these”). To simulate a realistic choice scenario, attributes were presented graphically as wine labels on a wine bottle. As in a real purchase situation, respondents were asked to choose among three bottles of wine (Figure 1), which they would buy.

To simplify the decision process and reduce the fatigue connected to choosing between four alternatives in each choice set, each attribute level was described using words and images or symbols. With reference to landscape we selected two images showing a modern landscape, in which there were modern large-scale vineyards, and a traditional landscape in Collio area with Russiz Villa-Castle located in the background behind the vineyard (a German Neo-Gothic style building near Spessa Castle). To represent organic production, we used the logo of European Union organic farming while with reference to geographic origin a logo that mimicked the real PGDO and PDO. The area of production was presented by using a map. Prices were clearly shown at the top of the bottle representing the alternative and all label prices were assumed to represent a 750 ml bottle. The questionnaire was analysed in depth via a focus group in which both experts and lay people participated. The questionnaire was then modified following focus group participants’ suggestions. The questionnaire format was subsequently validated using a pilot survey.

The data used for this analysis were gathered in a 2013 regional questionnaire-based survey administered to a sample of the population of local consumers. 214 usable questionnaires were collected. The interviews were conducted in the

Figure 1 - An example of choice set.

GROUP 1	A	B	C	D
Price 750 ml bottle	€ 12	€ 12	€ 12	
Region of origin	Other Italian regions	Friuli Venezia Giulia	Collio	NONE OF THESE
Wine grape landscapes				
Organic claim				
Certification claim	PGDO	PDO	PGDO	
Choose the wine you are MOST likely to purchase →	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Friuli Venezia Giulia Region. A group of interviewers were specifically trained to randomly interview passers by stopping one person in every five. Target respondents were wine consumers and interviews were carried out face-to-face inside wineries, restaurants and supermarkets. Participation in the survey was voluntary and no financial incentives were offered to the interviewees.

Beside the usual socio-demographic questions and the choice experiment task, the questionnaire was designed to gather information about wine consumption habits, knowledge of organic and biodynamic wines, frequency of organic and biodynamic wine consumption and understanding of geographical origin.

3. Results

The majority of participants were male (63%). 36% of respondents belonged to the 25-35 age range and 33% to the 36-50. About 55% had a high school diploma and 20% a university degree. 52% were employees and 40% were regular wine drinkers. By regular wine drinkers, we mean people who drink wine at least once a day.

More than 55% of consumers stated that they had heard of organic wines, while 73% stated they had not heard of biodynamic ones. About 39% declared they were occasional consumers of organic wine while 17% were irregular consumers of biodynamic wines.

The choice experiment data were analyzed using Nlogit 4[©] software.

First a Multinomial Logit model (MNL) was estimated using the following linear utility function:

$$U(x_i) = \beta_{optout} * OptOut_i + \beta_{collio} * Collio_i + \beta_{friuli} * Friuli_i + \beta_{PDO} * PDO_i + \beta_{PGDO} * PGDO_i + \beta_{landscape} * Landscape_i + \beta_{organic} * Organic_i + \beta_{price} * PRICE_i \quad (1)$$

Where OptOut is a dummy that assumes value 1 for the no-choice option and 0 otherwise; Collio a dummy that indicates the area of production Collio; Friuli a dummy that indicates the area of production Friuli Venezia Giulia; PDO a dummy that indicates the PDO certification; PGDO a dummy that indicates the PGDO certification; Landscape a dummy that assumes value 1 if the wine is produced in an area with an evocative landscape; Organic a dummy that assumes value 1 if the wine is organic and PRICE the price variable.

The MNL model rarely satisfies the strict *ii*a (independence of irrelevant alternatives) assumption and therefore it is often used to gain a first exploratory overview of the results.

The results obtained from the MNL model using a linear function (1) of the price led to controversial results. Contrary to our expectations, the coefficient of the price variable was positive ($\beta_{price} = 0.029$). This implies that the higher the price, the higher the probability of purchasing a given wine *ceteris paribus*. This result cannot be justified in

economic terms. In other words, while it is plausible that purchase decisions are guided by price as a signal of quality up to a threshold price, it is not plausible that the relationship between price and purchase probability is linear and positive in the case of a rational economic agent, with the only exception of the so called Giffen goods.

To overcome this problem (Cicia *et al.*, 2002; Mtimet and Albisu, 2006; Hertzberg and Malorgio, 2008; Tempesta *et al.*, 2013) a model with a quadratic price utility function like equation (2) was estimated and its results are reported in Table 1.

$$U(x_i) = \beta_{optout} * OptOut_i + \beta_{collio} * Collio_i + \beta_{friuli} * Friuli_i + \beta_{PDO} * PDO_i + \beta_{PGDO} * PGDO_i + \beta_{landscape} * Landscape_i + \beta_{organic} * Organic_i + \beta_p * PRICE_i + \beta_{p2} * PRICE_i^2 \quad (2)$$

The results of the MNL model (Table 1) highlight that consumers are insensitive to the organic attribute (not significant, $p > 0.05$), prefer wine from the Collio area, place a positive value on the preservation of traditional landscape and are influenced to a certain extent by denomination of origin labelling (either PDO or PGDO).

Table 1 - Multinomial Logit model estimates.

	Coefficient	std.error	t-student	significance
OPTOUT	3.758	0.632	5.943	***
ORGANIC	0.030	0.094	0.32	
COLLIO	1.375	0.133	10.318	***
FRIULI	0.929	0.131	7.113	***
LANDSCAPE	0.379	0.080	4.761	***
PGDO	1.453	0.121	11.959	***
PDO	1.586	0.130	12.158	***
PRICE	0.673	0.135	4.991	***
PRICE ²	-0.039	0.008	-4.803	***
*** p-value < 0.05 ; LL = -1538.75; McFadden Pseudo R-squared = 0.192.				

Note that with a utility specification like that in (2) it is not possible to plausibly estimate the premium price since the marginal utility of money is a function of the price level (inverse U-shaped parabola in our utility function specification). At best it is possible to calculate the price (we refer to it as $P_{threshold}$) that discriminates two different parts of the utility function by using the following formula:

$$\begin{cases} U = \beta_p p + \beta_{p2} p^2 + \sum \beta X \\ \frac{\partial U}{\partial p} = \beta_p + 2\beta_{p2} p \end{cases} \quad (3)$$

where X are all attributes considered apart from price. The indirect utility function U becomes parabolic when $\beta_p > 0$ and $\beta_{p2} < 0$.

Then $P_{threshold}$ can be derived by finding the maximum of $\frac{\partial U}{\partial p}$, namely the value of p where $\frac{\partial U}{\partial p} = 0$

Therefore:

$$P_{\text{threshold}} = -\frac{\beta_p}{2\beta_{p^2}} \quad (4)$$

Where: β_p = coefficient of price in the utility function; β_{p^2} = coefficient of price squared in the utility function.

$P_{\text{threshold}}$ is the value of PRICE that maximises the indirect utility function with respect to price. When the price is lower than $P_{\text{threshold}}$ the consumer considers the price as a sign of wine quality. Only if the price is higher than $P_{\text{threshold}}$ the consumer behaves in a way consistent with neoclassical consumer theory.

A Latent Class model (LCM) was then estimated to overcome the limitations of the MNL model and to better understand whether the insignificance of the organic attribute was due to heterogeneity in the sample. The definition of the best number of classes in LCM models is an exogenous process and there is not a univocal rule to be followed to this end. Scholars usually find the number of classes by considering the Akaike information criterion (AIC), Bayesian information criterion (BIC), Hannan–Quinn information criterion (HQC) and the value of the log likelihood function. As it can be seen in Table 2, in our case these criteria did not provide a univocal result. However, considering the value of the criteria and the difficulty in understanding the meaning of the results in the case of a high number of classes we opted for a 3 classes model. Note however that the number of people belonging to the class that is positively influenced by organic production is substantially stable, in terms of percentage of people, even passing from three to five classes.

Table 2 - Models criteria comparison.

	MNL	LCM-2	LCM-3	LCM-4
log likelihood	-1538.75	-1428.52	-1380.81	-1357.25
AIC	2.410	2.255	2.196	2.175
BIC	2.447	2.331	2.312	2.332
HQC	2.424	2.283	2.239	2.233
McFadden Pseudo R-squared	0.192	0.197	0.224	0.237

Looking at the LCM results (Table 3), it emerges that it is possible to characterize the sample considered in three subclasses consisting of 54% of people the first, 27% the second and 19% the third.

The first class' utility is negatively affected by organic wine, and its members prefer wine produced in the Collio area, like wines produced in traditional landscapes and place great importance on the PDO or PGDO labelling. For this class the fact that a wine is generally produced in Friuli Venezia Giulia is not significant (p -value > 0.05).

The second class places great importance on the denomination of origin labelling, prefers PGDO wines to PDO and is the only one that prefers organic wine. For this class of people it is more important for a wine to be produced in Friuli Venezia Giulia rather than in the Collio area. The

contribution of the wine producer in maintaining a traditional landscape is less relevant for this class of people than for the others.

The third class of people is the most negatively affected by organic wine, likes PDO and PGDO wines, but it is quite indifferent to the two kinds of labelling. It is the most enthusiastic about the preservation of the traditional landscape and prefers wines from the Collio area to those from Friuli Venezia Giulia only marginally.

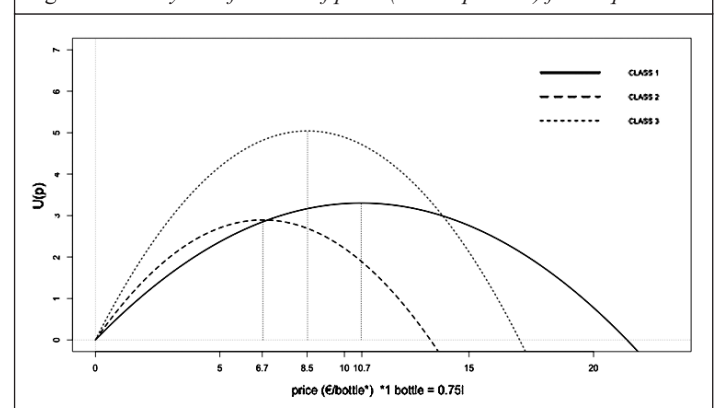
Table 3 - Latent Class model estimates.

	CLASS 1 54%		CLASS 2 27%		CLASS 3 19%	
OPTOUT	2.082	*	3.487	***	8.027	***
ORGANIC	-0.462	**	1.302	***	-1.305	***
COLLIO	1.687	***	1.531	***	1.401	***
FRIULI	0.397		1.711	***	1.107	***
LANDSCAPE	0.446	***	0.234	*	0.696	***
PGDO	1.805	***	1.711	***	1.971	***
PDO	1.871	***	1.703	***	2.249	***
PRICE	0.619	**	0.861	***	1.184	***
PRICE^2	-0.030	*	-0.064	***	-0.070	***
	*** p < 0.01		** p < 0.05		* p < 0.1	

The results of the parabolic LCM model allow us to estimate the $P_{\text{threshold}}$ for each class using equation (4) (Figure 2). The first class has the highest $P_{\text{threshold}}$ (10.7 €/0.75l), the second the lowest (6.7 €/0.75l) while the third lies in the middle (8.5 €/0.75l).

From a socioeconomic point of view the three classes differ from each other. In particular among people belonging to the second class there are more unemployed (students and housewives) and a lower number of wine connoisseurs. They also tend to drink more beer than the others. They occasionally drink organic wine and, in general, have a better knowledge of this kind of product. At the opposite end, people belonging to the third class have never drunk organic wine and in general consume less wine than the others. They are older than the other interviewees and have a lower educational level. Only a few have a bachelor's degree.

Figure 3 - Utility as a function of price (*ceteris paribus*) from equation 2.



Finally people belonging to the first class present characteristics similar to that belonging to the second one but tend to be employed and drink less beer.

4. Discussion and conclusions

Our results highlighted some important aspects for the design of marketing strategies in the wine sector. First, only a limited number (27%) of the sample is interested in buying organic wine. Second, denomination of origin labelling is the most important factor considered by all respondents (both according to the MNL and LCM results) when choosing a wine to buy. Third, our sample was quite indifferent between PDO and PGDO denomination of origin labels: which denotes a lack of information about the differences between them. Fourth, all respondents judge the contribution of the wine producers in maintaining the traditional landscape positively. Fifth, the area of origin is held to be very important. In this respect our results are in line with the majority of studies as outlined in the review by Feldmann and Hamm (2015). In their review the authors found that in almost all studies people were willing to pay more for local food compared to other characteristics.

From our study local claims prevail on organic production in influencing purchase probability in the wine market of Friuli Venezia Giulia. Even people with a certain propensity to buy organic wine give primary importance to local claims. In this respect organic production and local claims are complements rather than substitutes. It seems that people do not associate yet organic production with increased quality in the wine market. Quality is more linked to the local claims and therefore organic labels seem to be a not sufficient condition to guarantee the perceived quality of a certain wine. In this respect we believe that at this stage of awareness the organic character of a wine works better in conjunction with a well reputable brand linked to the territory.

One interesting aspect that emerges from our findings is that despite not being a characteristic valued by the majority of consumers, organic production can still be a valid diversification strategy, especially if the wine is not produced in PDO or PGDO areas. According to Bazoche *et al.* (2014) organic wines seem to be of interest to a quite consistent niche market. In fact, from our results organic production increased the probability of purchase for 27% of consumers. This result is quite important especially considering that the general knowledge of organic wine production is still at the growth stage: only 55% of consumers declared they knew about organic wine and 39% that they were occasional consumers of this wine. If the general awareness of organic production is expected to grow in the next few years (Remaud *et al.*, 2008) supported by normative beliefs (Bishop and Barber, 2015), the current niche market for organic wine might become more important and profitable in a recent future.

Some measures seem to be necessary to ensure the profitability of organic wine production. In a complex market

like that of wine where sustainability plays a key role (Santini *et al.*, 2013), organic production seems to be a necessary (for at least 27% of people) but not sufficient condition in determining the perception of wine quality. Other factors proved to be as much or more important for wine consumers. In line with Wiedmann *et al.* (2014) - whose findings indicate that adding information about the wine making process leads consumers to increase their ratings in favour of "organic wine" - Castellini *et al.* (2015) and Troiano *et al.* (2014) - who point to consumers' low awareness of this type of product - our results suggest that a key factor in determining the success of organic wine production could be the amount of effort organic wineries put into increasing information/communication about their product and thereby achieving a good reputation (in terms of quality) and earning a higher consensus among consumers. In addition, another important aspect in organic wine promotion would be to focus consumer attention on the low impact of organic wine production.

For what concerns the importance of production practices in maintaining place culture and identity, we found that landscape features seem to be able to influence the preferences for wine, supporting the results of Tempesta *et al.* (2010).

Looking at the price attribute, our data analysis confirmed the results which have emerged in other studies (Cicia *et al.*, 2002; Mtimet and Albisu, 2006; Hertzberg and Malorgio, 2008; Tempesta *et al.*, 2013): price acts as a signal of quality. People seem to recognise that wine quality is connected with wine price, probably thinking that it is impossible to obtain a very cheap product following certain production practices. The influence of price in driving purchase probability is subject to respondent budget constraints and therefore the effect of price is positive in determining purchase probability up to a certain threshold: after that threshold the effect becomes negative. This result highlights how choosing the correct price for a wine is a key element in determining its success in the chosen market segment. Mtimet and Albisu (2006) found a price threshold of about 5€/0.75l for Spanish wine, while Tempesta *et al.* (2013) found a price threshold of 7.5 €/0.75l. Our results in this respect are in the same range for 81% of our sample (6.5 €/0.75l for 54% of sample and 8.5 €/0.75l for 27% of sample) while the remaining 19% has a slightly higher value (10.7 €/0.75l). The comparison with the monetary values found by other authors is reported for completeness, given that we cannot expect the values to match due to differences in the countries of the studies (Spain and Italy) and/or wine types. Looking at the characterization of our three classes of consumers, we did not find a clear relation between wine consumption and price threshold as in Hertzberg and Malorgio (2008), where occasional drinkers have a higher price threshold than usual drinkers. In our study the price threshold is positively correlated with wine knowledge rather than wine consumption.

It is possible to summarise our results providing some suggestions for producers that would like to valorise their organic wine production or take advantage of it in the near future. Our tips should be considered keeping in mind that organic wine consumers are nowadays a niche, despite quite consistent (nearly 30%) in Friuli Venezia Giulia. Nevertheless, following the food market trend, it is likely that the market opportunities will gradually expand.

Our main suggestion is to invest in communication and promotion: customers should be conscious of the characteristics and added value of the product. More in detail, we encourage producers to consider the following aspects during their product promotion:

- It is important to emphasise both in the labelling and wine promotion the linkage of the wine with its territory.
- If the wine is organic, this should be highlighted with the organic certification logo.
- Beside the logo, customers should be made aware of the added value of the organic production method in terms of quality of the product and sustainable use of land in the production area.

The latter aspect should not be neglected, given that people are always more conscious about the impact of their actions as customers and because of the preference given by customers to wines produced in a well preserved traditional landscape.

Further research is needed to confirm the results achieved in our study, especially if we consider that our data were collected in one Italian Region with regard to a product produced in the same Region. In this respect our results should be interpreted as a suggestion in considering organic production for improving the local market share and cannot be generalised for the Italian market. Nevertheless, these findings should prove particularly useful for wine sellers and entrepreneurs since there is a limited amount of studies focusing on the Italian wine market that compared the perception of consumers about environmental and origin aspects. Moreover, our results could help producers to improve their design information and communication strategies.

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