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# WHAT MATTERS FOR CONSUMERS OF ORGANIC WINE IN SWITZERLAND?

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# What matters for consumers of organic wine in Switzerland?

## Abstract

In an oral survey, 404 Swiss wine drinkers were interviewed in order to rank the importance of the 'organic' attribute for wine relative to other attributes and to identify the most important determinants of consuming organic wine.

## 1. Introduction

Generally, the determinants for consumers' wine preferences are rather well researched. Except price and colour, the country of origin is an important attribute (Gil and Sanchez, 1997; Stolz and Schmid, 2006), in most countries the berry fruit plays a major role (Petzold et al., 2008), awards may foster wine sales (Lockshin et al., 2006; Jaeger et al., 2009), and, more recently, a lot of attention has been devoted to the design characteristics of the wine bottle (Weiss, 2008; Szolnoki, o.J.). In addition, it is clear that age, gender and income form wine consumption behaviour (Ndanga et al., 2009).

Likewise, the reasons why consumers would buy organic food are reasonably well explored. Organic buyers are usually better educated than others (Lockie et al., 2002), care for the environment (Loureiro et al., 2001) want to support organic farmers (Worner and Meier-Ploeger, 1999), or most importantly, consider organic food as healthy and safe (Harper and Makatouni, 2002).

However, there is an intersection between these two markets that has been less well explored while its analysis could resolve important issues. The market for organic wine, though expanding (Crescimanno et al., 2002) has often been lagging behind other markets for organic food. A good case in point is Switzerland where the market share of organic food is over ten per cent, but only three per cent in the wine market. While organic food enjoys an excellent image in general (Mann, 2003), Delmas and Grant (2008) report that the willingness to pay for organically labelled wine was 20 per cent lower than for other wine because the quality image of organic wine is rather poor.

Studies about the image of organic wine were to date carried out in countries where organic food was still in small niche, not being included in the main supermarket shelves (Fotopoulos and Krystallis, 2002; Fotopoulos et al., 2003; Brugarolas Molla-Banza et al., 2005). For countries with a well established organic market segment like German-speaking or Scandinavian countries, the literature is rather based on estimations than on scientific evidence (Vaterlaus, 2000).

The well developed market of organic food in Switzerland provides ground to answer the question about the strengths and weaknesses of organic wines and about the most important motives to choose wine with an organic label. For this purpose, a brief theoretical framework is outlined in Section 2. The method to understand the preference for and against organic wine is outlined in Section 3, Section 4 describes the results. Section 5 concludes.

## 2. The position of organic wine in Switzerland

The starting point of our analysis is the finding by Fotopoulos et al. (2003; 559) that 'organic buyers mostly prefer extrinsic quality cues found on the wine label, because their purchasing motives are food's "high quality", "healthiness/ purity" and "traditional image/ authenticity"'. It should be mentioned that this finding is not only based on a sample size of 49 respondents only, but is valid for a very weakly developed market of organic wine. In Switzerland, every supermarket buyer can choose freely between organic and conventional wine, while it takes

some effort in Greece to find organic wine mostly retailed by specialized organic stores and winemakers. Another difference is the moderate consumption of wine in Switzerland which is at 34 litres per head and year and Greece, where wine (conventional) is a more important part of the diet (Karayannis and Kelepouris, 2008).

These conditions make it likely that the two goods “organic wine” and “conventional wine” are on a far more equal base for consumer decision making than they are in Greece. This alters the cognitive and behavioural base for wine purchasing. In Greece, any wine purchase with low involvement will almost necessarily lead to a decision in favour of conventional wine.

As the comparably strong position of organic wine in Switzerland implies that the choice between organic and conventional wine is always a conscious rather than an implicit choice, such as the choice between red and white wine. This makes it useful to test the relative importance of the attribute “conventional versus organic” against other important wine attributes.

The broad availability of organic wine makes it also useful to grasp the attributes that both users and non-users of organic wine attach to organic wine. The well established market makes it likely that most consumers have some experience or at least some attitude towards organic wine. While it is common sense that consumers should not be asked to judge what they cannot judge, the good development of the organic market in Switzerland allows for a thorough analysis of the image of organic wine.

### 3. Method

An oral survey was carried out among a random sample of 404 wine drinkers in towns and cities of different size in the German and French speaking part of Switzerland in fall 2009. The interviews were restricted to people living in Switzerland and lasted around fifteen minutes. The questionnaire consisted of three parts: Respondents were asked to judge different wine labels in order to carry out a conjoint analysis (see 3.1). In a second part, respondents were asked to evaluate the image of organic wine and to state their own consumption behaviour (see 3.2). A third part collected some statistical information about the respondents (see also 3.2).

#### 3.1 The importance of attributes

Conjoint analysis is a marketing research tool used to study consumers’ preferences and behaviour (Cattin and Wittink, 1982). This technique has its theoretical foundations in the Lancaster model (1966; 1971) which states that goods are valued for the attributes they possess. In Conjoint analysis the researcher chooses a set of attributes and consumers are asked to rank products on the basis of these pre-selected attributes.

Based on the data from previous research, four attributes of wines were chosen to be included in the conjoint task of the oral survey described above. These attributes are colour, method of production, origin and price. All attributes and their levels are shown in Table 1.

**Table 1 Attributes and levels used in conjoint analysis**

Attributes	Levels
<b>COLOUR</b>	<ul style="list-style-type: none"><li>• Red</li><li>• White</li></ul>
<b>METHOD OF PRODUCTION</b>	<ul style="list-style-type: none"><li>• Conventional Wine</li><li>• Organic wine</li></ul>

<b>ORIGIN</b>	<ul style="list-style-type: none"> <li>• France</li> <li>• Spain</li> <li>• Switzerland</li> </ul>
<b>PRICE</b>	<ul style="list-style-type: none"> <li>• 9.90 CHF/Bottle</li> <li>• 16.90 CHF/ Bottle</li> <li>• 22.90 CHF/ Bottle</li> </ul>

Source: Own research

When the four selected attributes and their respective levels are combined we obtain 36 hypothetical products. We used a fractional factorial and orthogonal design to reduce this number to 9 feasible subset of products as stimuli to be rated by consumers (Orthogonal design procedure of SPSS was used), plus three hold-out stimuli. The data collection method used in this research is full-profile method, where participants are required to evaluate a set of stimuli representing alternative combinations of all five attributes (hypothetical products). Figure 1 shows an example of a stimulus card.

Figure 1: An example of a stimulus card

<u>Wine A</u> Bio Red Switzerland 16.90 CHF				
<b>Very low preference</b>			<b>Very high preference</b>	
1	2	3	4	5

The respondents' task was to rate each stimulus on a 5-point scale, where 1 indicates very low and 5 indicates very high preference for the product described. The conjoint model is then specified in which consumers rating (preferences) represent the dependent variable and attribute levels represent the independent variables.

### 3.2 Explaining consumption behaviour

The variable which was to be explained was the share of organic wine which consumers drank against their total wine consumption. This share was explained by two different sets of variables: Variables relating to attitudes towards wine in general and organic wine in particular, and variables relating to the sociodemographic characteristics of the respondent. Both sets of variables are depicted in Table 2.

The explaining variables contained two items about attitudes about wine in general and four items about organic wine. It was expected that an emphasis on the design of the wine bottle would decrease the degree of interest in organic wine. It was, on the other hand, expected that the intolerance for additives in wine would go along with a preference for organic wine.

As outlined in the introduction, it is well known that there are different arguments for consuming organic food. Table 2 shows that most consumers agree to the environmental soundness of organic wine production, while taste advantages are generally doubted. It is, however, to explore which aspect of organic wine is the best predictor for its consumption. It

can be assumed that the “health” variable will play a role, since health has developed as a strong argument for the consumption of food in general (Lohr, 2001). It can also be assumed that the perceived image of organic wine will be a good predictor as wine in Middle Europe is still perceived as a rather prestigious item (Spawton, 1990).

Regarding sociodemographic explanatory variables, it can be expected the oenophiles will have a different approach to organic wines than occasional consumers. It is well known since long that women tend to prefer organic food to a stronger degree than men (Schütz and Lorenz, 1976). Simões et al. (2006) also report a significant influence of the degree of education on food selection. And urban lifestyles may. And according to Radman (2005), organic consumption is more prevalent in cities compared to rural areas. It is noteworthy whether such general patterns will also apply for the case of organic wine.

Table 2: Variables for the explanation of organic wine consumption behaviour

Name Variable	Meaning	Measurement	Mean
shareorganic	Percentage of organic wine consumption against total wine consumption	Arcsine square root (percentage)	Percentage = 5.8
OUTFIT	Agreement to “The external appearance of wine is more important than its content”	1 – disagree totally to 5 - agree totally	1.88
ADDITIVE	Agreement to “additives like sulfite do not belong into wine”	1 – disagree totally to 5 - agree totally	3.14
HEALTH	Agreement to “Organic wine is healthier than other wine”	1 – disagree totally to 5 - agree totally	2.39
TASTE	Agreement to “Organic wine tastes better than other wine”	1 – disagree totally to 5 - agree totally	1.84
ENVIRONMENT	Agreement to “Organic wine is produced under environmentally friendly conditions”	1 – disagree totally to 5 - agree totally	3.99
IMAGE	Agreement to “I like to offer organic wine to my guests”	1 – disagree totally to 5 - agree totally	2.16
SOPH	Is respondent an oenophile?	1 – not at all to 5 - totally	2.81
GENDER	Gender of respondent	0 – female; 1- male	0.50
AGE	Age of respondent	years	46.62
EDUCATION	Degree of respondent's education	1- primary education to 5- University Degree	3.67
TOWN	Size of respondent's residence	1 – < 1000 inh. 2- 1,000-10,000 inh. 3- 10,000-100,000 4 - > 100,000 inh.	3.04
FREQUENCY	How often consumes respondent wine?	1 – less than once per month 2 – at least once per month	3.36

		3 – once per week	
		4 – several times per week	
		5 – at least once per day	

Two OLS regression analysis with the transformed dependant variable were carried out by Stata. The standard tests for heteroscedasticity and collinearity were carried out with a negative result.

#### 4. Results

##### 4.1 The importance of attributes

Our model fit is very high, so we can conclude that validity of the results is high (Pearson's  $R = 0.791$ ; Kendall tau= $0.611$ ). By the application of the Conjoint Analysis to the entire sample, we can state that the most important attribute is the origin of wine, with 33.03% of importance, followed by the attribute price, with an importance of 31.49%. In third place, in terms of importance, is the attribute system of production (22.62%); in fourth place comes the attribute Colour of wine with an importance of 12.86%. These results are illustrated by Figure 2 .

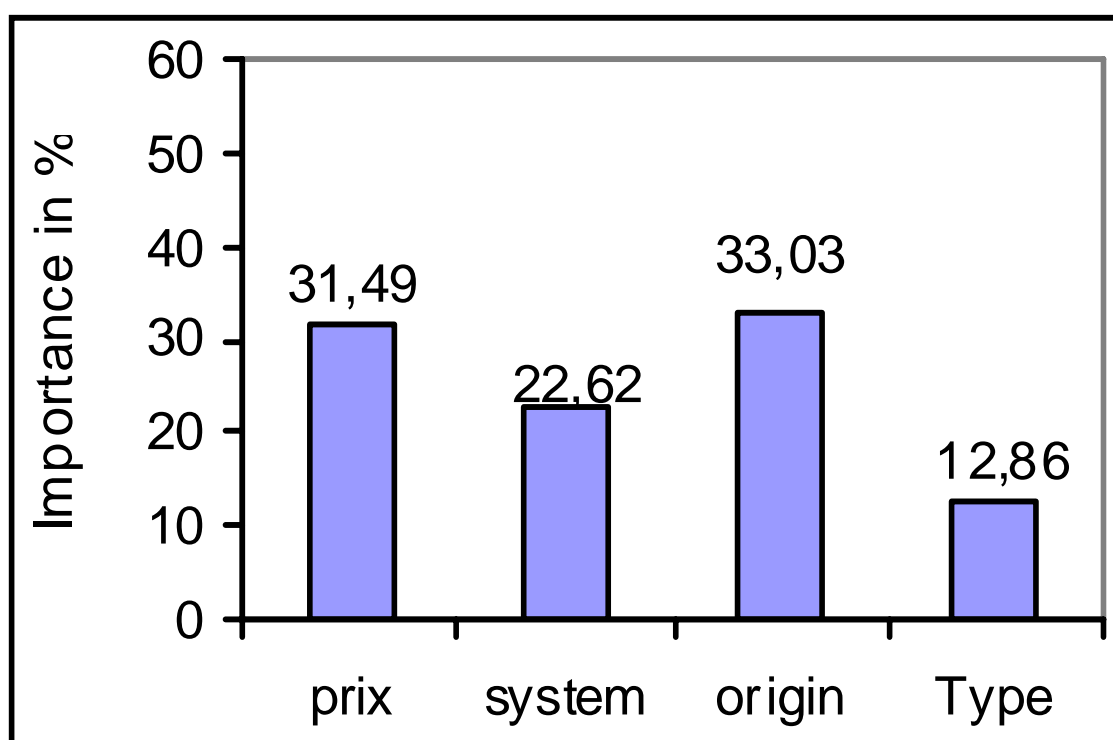


Figure 2. Attributes' Importance

In terms of part-worths of the levels of attribute, the results show that in the attribute origin of wine, the preferred level is France with a part-worth of 0.173; the origin Switzerland has a part-worth of (0.042) and the Spain wine has a part-worth of (-0.215). About the attribute production system, it's possible to say that the preferred level is an Organic wine with a part-worth of 0.169, and the conventional wine has a partworth of (-0.169). In the attribute wine price, the preferred level is 9.90 CHF, with a part-worth of 0.212. In the attribute Colour, the red wine presents a part-worth of 0.044.

Table 3: Estimators for the preference for wine

		Utility estimation	Standard error
price	9.90	.212	.214
	16.90	-.042	.214
	22.90	-.170	.214
system	conv	-.169	.161
	bio	.169	.161
origin	CH	.042	.214
	FR	.173	.214
	ES	-.215	.214
Type	red	.044	.161
	white	-.044	.161
(Constane)		2.744	.169

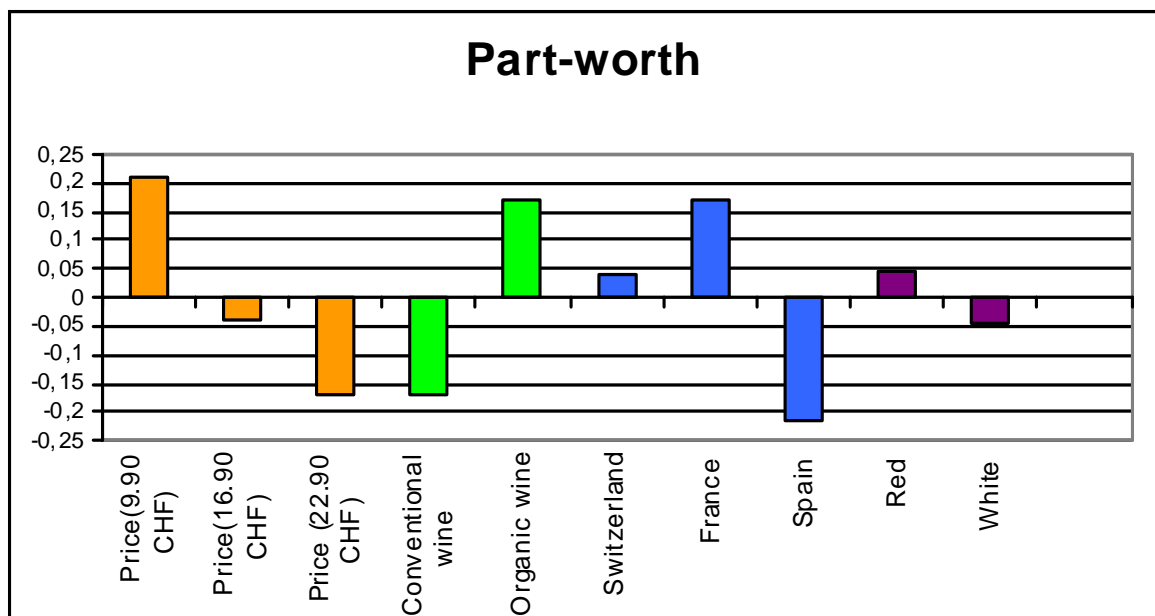


Figure 3. Levels of attributes and correspondent part-worth

Conjoint Analysis allows researchers to know which the ideal wine is. This is made by summing all the part-worths of the preferred levels and the value of the constant. And this ideal wine would be: So, if we sum all part-worths and the value of the constant, we have:  $0.212 + 0.169 + 0.173 + 0.044 + 2.744 = 3.342$  So, the global importance of this ideal wine would be 3.342. So, some advantages of using the Conjoint Analysis were illustrated.

#### 4.2 Explaining consumption behaviour

The results in Table 4 indicate that the predictive power of different wine attributes for the consumption of organic wine is very different. Consumers who value the design of the wine bottle more than the content are a little less likely to appreciate organic wine, while the attitude towards additives in the wine is not a good predictor for organic wine consumption.



There are two variables that clearly predict best whether a consumer will choose organic wine: One is the subjectively perceived status image which is connected with organic wine consumption, the other is the perceived health effect of organic wine. The first factor can be explained by the social role of wine in Middle Europe which is a rather high-status drink. The latter goes far beyond the special characteristics of wine and confirms the result cited for other food items that health has become the most important argument for the consumption of organic products.

The fact that few people diagnose taste advantages of organic wine does not seem to be a serious problem for organic wine because taste is not a predictor for the choice between organic and other wine. Of little help is the perception of the positive environmental effects of organic wine production. Apparently, people who see these effects are not significantly more likely to consume organic wine.

Table 4: Wine-related explanatory variables

Name Variable	coefficient	p
OUTFIT	-0.014	0.072
ADDITIVE	0.009	0.181
HEALTH	0.027	0.001
TASTE	0.018	0.072
ENVIRONMENT	0.005	0.615
IMAGE	0.071	0.000
R <sup>2</sup>	0.43	

Neither do better educated people drink more wine nor does age or the amount of wine consumed have any influence. However, it certainly provides a good case for organic wine that consumers who consider themselves as oenophiles use to prefer organic wines. In addition, urban women appear to be considerably more attached to organic wine than rural men.

Table 2: Person-related explanatory variables

Name Variable	coefficient	p
SOPH	0.035	0.001
GENDER	-0.073	0.002
AGE	0.0001	0.880
EDUCATION	0.001	0.900
TOWN	0.031	0.009
FREQUENCY	0.010	0.898
R <sup>2</sup>	0.08	

## 5. Conclusions

It is important for those concerned with the marketing of wine that the issue of organic versus conventional is of limited importance. Like for vegetables (Ekelund and Tjernemo, 2004) and apples (Wang and Sun, 2003), the country of origin has to be proven more important for wine purchasing decisions than the production method. A remarkable difference to vegetables and apples is the fact that this does not at all describe the ambivalence between regionalism and environmentalism. The preferred region for Swiss wine consumers is not Switzerland but France. Given the fact that France has a more longstanding tradition of high quality wine production than Switzerland, this shows that wine purchase decisions are carried out with a clear focus on quality.

Wine has several quality attributes, and it could be shown which ones are decisive for the choice for organic wine. Therefore, the results allow to outline a strategy of Public Relations

for increasing the public preference for organic wine. Among an urban and predominantly female target group, it appears worthwhile to communicate the positive social image of organic wine. In order to do so, the argument that skilled wine drinkers choose organic labels more often may be a first important argument. In addition, health aspects of organic production processes like the absence of pesticide residues will be an important argument for potential consumers of organic wine. This is even more important than to improve the only moderate taste image of organic wine.

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