Regulatory policies and consumers perception of wines with protected designation of origin: a conjoint experiment

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1. INTRODUCTION

In the Common Agricultural Policy, support measures are usually joined to regulatory ones. The wine CMO maybe represents the most evident example. Changes in regulatory systems produce effects on enterprise competitiveness, either operating on the costs side (i.e. oenological practice restrictions or designations of origin product specifications) or operating on the income side, namely allowing enterprises to differentiate products and collocate them in higher added value market segments.

In particular provisions in wine labelling and presentation, which are joined to rules on production methods linked to health concerns, origin and quality would allow consumers to distinguish between products of higher and lower quality level and differentiate consumers' willingness to pay. This is possible if consumers are able to notice the diversities and attribute a higher value to some quality aspects of the products.

The paper analyses how different aspects connected with regulations can influence consumers' quality perception and their willingness to buy wines with protected designation of origin. In particular, aspects concerning labelling and presentation, which, in turn, mirror different regulations of production methods, are considered. Consumers' preference can allow enterprises to comply with more restrictive rules and sustain higher costs to differentiate their products and achieve higher quality.

Generally, in retail selling points, consumers mainly choose on the basis of extrinsic cues, used as quality signals of the product. Moreover, they cannot taste the product or get specific information about it by the selling point staff.

In this case, attributes that are usually considered in marketing and sensory studies are: packaging (bottle colour and shape, label, etc.), brand name (producer, geographical indication), information about wine characteristics (variety, region of origin, vintage) and price.

However, we have also to consider other information that is directly linked to rules about labelling and wine-product presentation (Reg. EC No 607/09), concerning compulsory (i.e. horizontal rules about ingredients: "contains sulphites") or optional particulars (i.e. the indication of a geographical unit smaller or larger than the area underlying the designation of origin; terms referring to certain production methods; indication of the Community PDO and PGI symbols; terms referring to a holding; the role of an enterprise like producer and bottler at the same time: "produced and bottled by…"), as well as information concerning other regulations like the EU organic legislation (Council Regulation (EC) No. 834/2007 about organic production and labelling of organic products).

All these attributes are not usually taken into consideration together in evaluating consumers' preferences, even if some studies analyse differences in consumers' perception and willingness to pay between organic and traditional wine products (Sirieix, Remaud, 2010). However, we feel that they are significant since they can modify consumers' perceptions and preferences considerably.

In the new wine CMO, an evident novelty is also the change in provisions concerning designations of origin and geographical indications, which are brought back to the rules concerning all the other PDO and PGI agro-food products. On the wine labels, producers can insert the PDO (and PGI) abbreviation and logo, in addition to or as a replacement for the national designations that were previously in use in each national state (in Italy DOC, DOCG and IGT). So the effect of this change in consumers' perception has to be analysed.

In this study, we consider the following elements linked to regulation provisions that can be used by enterprises as means of differentiation in product labelling and presentation:
- the discipline of organic farming (Council Regulation (EC) No 834/2007);
- the possibility of using additional producer organization brands (Italian Dlgs. April, 8 2010, No 61, in application of the Council Regulation (EC) No 479/2008);

- the indication of the name of the producer and the bottler, and other specific indications about production methods (Reg. EC No 607/09);
- the content of sulphur dioxide in wines and the rules concerning its indication on the labels (Reg. EC No 607/09 and Directive 2000/13/EC).

When choosing a product, consumers do not evaluate each single quality factor but the product as a whole, therefore the analysis has to be done with a methodology considering both the combination of all characteristics of the product, and the contribution of every factor to the creation of value for consumers. For this reason the value that consumers attribute to different characteristics linked to regulation aspects will be evaluated through an experimental economic analysis applying the method of the Conjoint analysis.

Conjoint analysis is usually used for guiding enterprises in their marketing choices; in this paper we use this technique, together with Factor Analysis, to evaluate how regulations and provisions in wine labelling and presentation can affect consumers' quality perception.

The experiment was realized submitting different labels of a protected designation of origin "Montepulciano d'Abruzzo DOC" wine to the evaluation of two different groups of consumers. The first group was composed by inhabitants of the Abruzzi Region, the region of production of the wine, in Italy, a country with strong tradition in wine consumption and familiarity with the EU wine regulation. The second one was composed by wine consumers of a new producer and consumer country, Brazil. The interviewed are inhabitants of Florianopolis, capital of the State of Santa Catarina, in the South of the country. Nonetheless the designation of origin Montepulciano d'Abruzzo is exported all over the word and the product is usually present in many retail selling points of the city of Florianopolis, that host a big Italian community, so Italian culture is not so unfamiliar in the area.

2. METHODOLOGY

2.1. The Conjoint analysis

Conjoint analysis is a marketing technique that researchers use to determinate the importance of some aspects of a product/service. It assumes that consumers may be able to evaluate a range of products/services along some key dimensions, called attributes. With the Conjoint analysis we construct different series of product profiles (concepts) that represent a possible product or service, in our case a different combination of information on wine labels and prices (different scenarios). The aim of the research is to estimate the importance of each attribute of the plan. For categorical attributes, the utility function consists of part-worth estimate for each level of the attribute. The market simulation models use this information to predict how each respondent would choose among alternative products.

In the literature related to the agricultural and food field, there are various applications of the conjoint analysis to the study of the impact of some factors/elements of a product on the purchase decisions. Cicia and Perla (2000) have carried out an experiment of Conjoint analysis applied to the organic extra-virgin olive oil, analyzing four attributes: the place of origin (Campania, Tuscany, Calabria), the institute of certification (AIAB or IMC), the aspect (limpid or cloudy) and the price (10,000, 15,000 and 25,000 Italian lire). The impact of the place of origin is the most important.

In the wine field an interesting experimentation has been realized from Szolnoki et al (2010) that has estimated the impact on various targets of consumers of some variables characterizing the product: the type of wine (Pinot Gray, Palatinate Riesling, Moselle Riesling), the shape of the bottle (Bordeaux, Schlegel), the colour of the bottle (green, brown, white) and three different styles of label; in this study was used a reduced plan that is constituted of 9 different profiles. Nardella (2009) has applied the Conjoint analysis to the milk product, studying the impact of some factors on the product acceptance: expiration, origin of the milk, percentage of fat. All the variables has been evaluated with a score from 0 to 100. Others interesting applications have been carried out on other

products, like bovine meat (Makokha et al, 2007), fish (Haldrendt et al, 1991), transgenic milk (Schnettler et al, 2008).

2.2. *The full profile technique*

There are different ways to use the Conjoint analysis and different techniques. With the full profile method, complete products are presented to consumers, namely with all attributes of a product at the same time. In any case the product to evaluate is a real physical object or similar to real.

The method is developed constructing various profiles to estimate/to order. In each profile, all the factors are present although with different combinations of levels and attributes. The respondent must then classify/estimate each profile using a criterion of preference: it could be liking, purchase intention, or other scales of preference.

With the full profile method the number of possible profiles grows in extremely fast way thanks to the various combinations of attributes and levels. So it has to be reduced to a fraction of all possible combinations. The plan must be balanced with a sufficient rotation of the attributes and with a sufficient number of profiles in order to maintain the overall significance of the experiment.

In the applied method, the respondent is asked to assign a score of preference to each profile, constituted by the label and the price of the wine, indicating a number comprised between 1 and 100 (score method). Then the impact of each attribute on the decision of the consumers and the part-worth of the different attributes will be estimated.

The full profile method better mirrors what consumers actually do, they focus on the complete product, not only on some aspects of that; in fact, the importance of full profile Conjoint analysis is that consumers value the product considering all factors together. In this case the situation is similar to the real process of buying.

2.3. *Research design*

The survey concerned more than two hundred wine consumers interviewed:
- at the Faculty of Agriculture of the University of Teramo and in different wine shops in the Abruzzi region (Italy);
- at the Federal University of Santa Catarina (UFSC) among participants (belonging to the Italian community) to a course concerning the valorisation of typical products and at different wine shops of the city of Florianopolis (Brazil).

The participants had to answer a questionnaire composed of two parts: the first part containing questions about personal information, attitudes in wine consumption and wine sector knowledge; the second one containing pictures of eight labels differing in some elements that identify eight different profiles of the same product. The respondents had to evaluate each profile on a scale from 1 to 100 on the basis of the willingness to buy the specific product.

The participants evaluated different versions of the same label of a Montepulciano D'Abruzzo DOC wine, provided by a producer and modified by an image managing software to obtain eight different product profiles. Consequently, the profiles are the same for the characteristics concerning the type of wine, the name and description of the product, the denomination of origin, the year, the alcoholic strength by volume, the label style, but differ for indications related to the applications of some regulations.

In this way the labels are comparable to a label of a PDO wine sold on the market (the product is sold both in Italy and in Brazil) in terms of information, aspect and way to present the contents.

The regulatory aspects taken into consideration are the organic production of grapes, the membership of a Designation of origin Consortium (in this case the "Consorzio di Tutela Vini d'Abruzzo"), the sulphites content, production and bottling in the enterprise. The variable "price" has been added to these elements, with the purpose to verify its influence as a marketing variable.

Organic production is regulated by the Council Regulation (EC) No 834/2007; this is the variable more often analysed in literature, but not in conjunction with the other factors considered in the paper. Usually a premium price for organic products is recognized by consumers, especially if sensible to natural and environmental aspects, even if this positive attitude does not always seem to extend to organic wines (Remaud et al, 2008).

The obligation of indicating the presence of sulphites on the label is regulated by Directive 2000/13/EC that was modified by Directive 2003/89/EC; the use of the terms "contains sulphites" or "sulphur dioxide" is compulsory when the SO2 concentration is higher than 10 mg/L or 10 mg/kg. The opportunity of avoiding this indication (very difficult to achieve because a small amount of sulphur dioxide is naturally produced by the yeast during the fermentation stage of winemaking) can be used like an indicator of naturalness (sulphites are usually added to prevent microbial contamination) and safety (sulphites are considered allergens) of the product.

The indication of wine "produced and bottled" in the enterprise (Reg. EC No 607/09) represents another guarantee of origin and naturalness of the product, because it states that the production and bottling of a designation of origin or geographical indication wine is done directly by the wine grower.

Finally the use of a Designation of Origin Consortium brand (regulated by the Italian Dlgs. April, 8 2010, No 61 in application of the Council Regulation (EC) No 479/2008) is another guarantee of origin and control of production.

The variable price has been divided in four ranges, which usually identify in literature (Rabobank, 2003) different segments: popular premium (price range between 3-5 euro), premium (5-7 euro), super premium (7-14 euro) and ultra-premium (14-25 euro). For Brazil a different price range has been used, due to the fact that wines are sold at higher prices in the country, especially the imported ones. However the prices may be brought back to the same segments in consumers perception.

The experimental design has been constructed with a reduced orthogonal plan with eight profiles, presented in Table 1. The software employed for the experiment is SPSS 18.0.

Table 1: Experimental design

Profile (label) number	Brand Membership of the Consortium Abruzzi wines	Indication "contains sulphites"	Indication "produced and bottled"	Grapes' organic certification	Price range
1	Present	Not present	In the enterprise	Not present	Premium
2	Present	Not present	Bottled in other enterprise	Indication of organic certification	Ultra-premium
3	Present	"contains sulphites"	In the enterprise	Indication of organic certification	Popular premium
4	Not present	Not present	Bottled in other enterprise	Not present	Popular premium
5	Not present	"contains sulphites"	In the enterprise	Not present	Ultra-premium
6	Not present	"contains sulphites"	Bottled in other enterprise	Indication of organic certification	Premium
7	Not present	Not present	In the enterprise	Indication of organic certification	Super Premium
8	Present	"contains sulphites"	Bottled in other enterprise	Not present	Super Premium

Source: own elaboration

3. RESULTS

3.1. Analysis of the utility values and the relative importance of the factors

The valid answers to the questionnaire have been 202, 153 belonging to the Italian sample and 49 to the Brazilian one. Table 2 contains a description of the two samples, which are homogeneous for the variables "Frequency of consumption" (even if in the Italian sample there are more frequent consumers and less occasional consumers that in the Brazilian one) and "Wine cognition level" (also in this case the Italian sample has a higher percentage of experts and a lower percentage of people with limited knowledge than the Brazilian one).

Table 2: Sample description

Age	% Italian sample	% Brazilian sample
18-30	28	12
31-40	34	20
Over 41	38	68

Gender	% Italian sample	% Brazilian sample
Male	39	59
Woman	61	41

Wine consumption Frequency	% Italian sample	% Brazilian sample
Regular	17	6
Medium	51	53
Occasional	21	23
Rarely	11	18

Wine cognition level	% Italian sample	% Brazilian sample
Expert	7	2
Good	24	8
Sufficient	47	51
Limited	22	39

In the following Table are indicated the main results of conjoint analysis that indicate the relative importance of the various factors.

Table 3: Conjoint Analysis. Relative importance of the factors (%)

Factor	Level	Italian (n=153)	Brazilian (n=49)
Consortium	(= Associated or not to "Consorzio di Tutela Vini d'Abruzzo")	20.33	4.11
Sulphites	(= Contains sulphites or not)	7.48	27.48
Bottling place	(= The wine is bottled at the production enterprise or at another enterprise	28.54	13.89
Organic certification	(= Organic certification or not)	10.83	5.85
Price range	(= The four different price ranges used in the experiment)	32.81	48.67

Source: own elaboration

From the result of the conjoint analysis for the Italian sample it turns out that the greatest importance is attributed to the price, with a score of approximately 33%; then we find the bottling place, with a value of approximately 28.5% and the association or not to a Consortium brand. The organic certification of grapes has a relative importance in the consumers' perception of about 12% and the presence or not of sulphites represents the least important factor (about 9.6%).

For the Brazilian consumer, price is by far (by 50%) the variable with the greatest impact on consumer choice. Sulphite content is the second-most important (27.5%) variable. Little attention is paid to organic certification of the grapes (less than 6%); membership in the Abruzzi wine Consortium is almost completely irrelevant (4%).

The results of the comparative analysis that was obtained between the data collected from Italian consumers and those from Brazilian consumers show the following differences:
- bottling location is the second-most important variable for Italian consumers, by a value of 28.5%, while for Brazilian it is only 12%. The policies adopted by the Italian institutions and producers with regard to the appreciation of the concept of quality food chain have probably enhanced this aspect for the consumer. It is important to point out that in the Brazilian market the great majority of Montepulciano d'Abruzzo DOC wines commercialized by the large-scale retail trade is wine of low quality bottled outside the region of production (Abruzzi);
- sulphite content expresses completely different values in the two countries: in Italy the presence/absence of sulphite is not an important element of choice, while in Brazil it holds in consumers choice;
- in Italy there is a greater value placed to membership (or not) in a wine protection Consortium; this result appears tied to the greater presence in Italy of structures geared to guarantee the product than in Brazil; it should be recognized that the characteristic of typical local product on the basis of territorial origin normally loses its importance when the product is acquired far from the area of production, especially if it is not well known in the global market.

The study reveals that the price range quoted for Brazilian consumers is the Popular premium, while for Italians it is the Premium. For both countries prices connected to Super premium categories and above represent negative indicators of utility (Table 4).

Table 4: Estimate of the factors utility value

Factor	Level	Utility value Italian	Utility value Brazilian
Consortium	Associated	3.93	0.84
	Not associated	-3.93	-0.84
Sulphites	It contains sulphites	-1.45	-5.60
	It does not contain sulphites	1.45	5.60
Bottling place	At the enterprise	5.51	2.83
	At other enterprise	-5.51	-2.83
Organic certification	Certificated	2.09	-1.19
	Not certified	-2.09	1.19
Price range	Popular Premium	3.67	9.48
	Premium	5.60	6.83
	Super Premium	-2.20	-5.94
	Ultra Premium	-7.07	-10.37

R of Pearson – Value 1.000

Tau of Kendall – Value 1.000

Source: own elaboration

Forty-two percent of the sample answered "controlled denomination of origin (DOC)" to the question: "Based on acquaintance, which of the following acronyms better indicates the wine of denomination of origin to be of high quality? "; 30.7% believe that the denomination of protected origin (DOP) is a synonymous of a better quality level, while 27.1% answered that the acronyms do not indicate qualitative differences.

The weight of the various factors that influence the choice of the consumer in terms of product acceptance differs in the different age ranges. For individuals aged 18 – 30 years the price variable has a relative importance for the Italian sample and a high importance for the Brazilian one. In the range between 31 and 40 years there is an impressive similarity between the two samples. The price maintain the bigger importance in all the ranges of the Brazilian sample, but decreasing at with the age (Table 5).

Table 5a: Relative importance of the factors / age range of the sample (Italian)

	Between 18 and 30 years (n=43)	Between 31 and 40 years (n=52)	Over 41 years (n=58)
Consortium	16.84	18.97	30.02
Sulphites	19.82	2.27	1.18
Bottling place	28.85	25.29	41.14
Organic certification	20.55	2.86	13.31
Price range	13.94	50.60	14.34

Source: own elaboration

Table 5b: Relative importance of the factors / age range of the sample (Brazilian)

	Between 18 and 30 years (n=6)	Between 31 and 40 years (n=10)	Over 41 years (n=33)
Consortium	5.00	19.57	1.93
Sulphites	18.43	1.05	36.48
Bottling place	11.72	25.63	9.01
Organic certification	4.70	4.91	8.36
Price range	60.15	48.84	44.22

Source: own elaboration

Women appear more sensitive to the price in Brazil than in Italy, on the other hand the values are similar for men. Stronger attention is confirmed to the variable Contains sulphites in the Brazilian sample, with a difference between men and women. Not other evident differences for gender are present in the Italian sample (Table 6).

Table 6. Relative importance of the factors / gender

	Italian		Brazilian	
	Male (n=59)	Female (n=94)	Male (n=29)	Female (n=20)
Consortium	19.99	20.63	3.34	13.31
Sulphites	7.66	7.34	34.13	16.51
Bottling place	22.75	33.56	15.17	11.01
Organic certification	10.20	11.38	7.23	3.56
Price range	39.40	27.08	40.13	55.60

Source: own elaboration

For the Italian sample it turns out that price is the factor of highest impact for the standard and occasional consumer (38% and 32%), while, for the frequent consumer and for the non-consumers, the bottling place turns out to be the most important factor (45% and 37%). Also Brazilian consumers which buy wine less than once a month give less importance to the price. Non consumers distinguish themselves from the other categories giving importance also to other quality signals like sulphites content and bottling place in Brazil and bottling place and organic certification in Italy.

Table 7a: Relative importance of the factors / frequency of wine consumption (Italian)

	Regular consumption (daily) (n=26)	Medium (at least once a week) (n=78)	Occasional (at least once a month) (n=32)	Non consumer (less than once a month) (n=17)
Consortium	13.20	19.18	28.55	19.29
Sulphites	5.04	9.63	0.94	18.48
Bottling place	44.76	22.20	29.01	37.06
Organic certification	8.51	10.79	9.37	18.58
Price range	28.49	38.21	32.13	6.60

Source: own elaboration

Table 7b: Relative importance of the factors / frequency of wine consumption (Brazilian)

	Regular consumption (daily) (n=3)	Medium (at least once a week) (n=26)	Occasional (at least once a month) (n=11)	Non consumer (less than once a month) (n=9)
Consortium	5.52	6.17	2.68	5.02
Sulphites	0.65	26.82	29.31	32.50
Bottling place	29.87	10.83	6.41	27.16
Organic certification	18.51	4.54	5.44	2.83
Price range	45.45	51.63	56.15	32.50

Source: own elaboration

3.2 Factor analysis results

The need to be fast in developing new products as a consequence of constant changes in the market, strong competition, globalization and a difficult economic situation, contributes to make product improvement a key point for on-going competitive advantage (Deliza et al, 2003). In the competitive and dynamic wine market, it's very important for wine producers not only to find out what kind of product the consumers look for, but also to understand which particular information, provided in the label, can influence the consumers acceptance of a specific wine bottle.

To study the consumer attitude towards the product, a Factor Analysis was used to analyse the main components of the wine demand characteristics. The aim of this research is to enable the response of each wine consumer to be analysed for the relative importance of each factor that influence his product acceptance.

The statistical analysis was performed using the SPSS statistical package.

Table 8: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.71
Bartlett's Test of Sphericity	Approx. Chi-Square	833.97
	df	91
	Sig.	.00

Source: own elaboration

Table 9: Total Variance Explained

Component	Initial Eigenvalues		
	Total	% of Variance	Cumulative %
1	3.58	25.57	25.57
2	1.79	12.76	38.39
3	1.76	12.57	50.91
4	1.33	9.49	60.40
5	1.06	7.56	67.96
6	.82	5.84	73.79
7	.74	5.27	79.06
8	.70	5.01	84.07
9	.55	3.93	88.00
10	.45	3.21	91.20
11	.39	2.76	93.96
12	.32	2.26	96.22
13	.28	2.02	98.24
14	.25	1.76	100.00

Extraction Method: Principal Component Analysis.

Table 10: Rotated Component Matrix (a)

	Component				
	1	2	3	4	5
Profile 5	.87				
Profile 8	.80	.17			
Profile 7	.79	.23			-.14
Profile 2	.69	.19			-.17
Profile 4		.81		.25	-.21
Profile 3		.78		-.22	.13
Profile 6	.42	.74			-.13
Profile 1	.21	.65			.12
Frequency			.81		
Product cognition			.80	-.11	-.16
Gender	-.19	.23	.48	.10	.39
Nationality (IT/BR)		.20	-.26	.84	
Age		-.24	.37	.69	.21
Wine designation cognition			-.17		.86

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
a: Rotation converged in 6 iterations.

Results of the Factorial Analysis are statistically significant (KMO = 0.73) and the first 5 components explain more than 68% of the total variance of the studied phenomenon:

- Component n. 1 "WOMEN AVAILABLE TO PAY FOR QUALITY'": it explains 25.6% of the total variance and is characterized by women, not differentiated by nationality, who prefer product profiles are 5, 8 and 7, indicating a preference for wine characterized by a medium-high price range.
- Component n. 2. "YOUNG MEN LOOKING FOR PRICE-QUALITY RELATIONSHIP": it explains 12.8% of the total variance and is correlated to young male subjects, mainly Brazilian consumers, that prefer the wine profiles 4, 3 and 6.
- Component n. 3 "FREQUENT CONSUMER WITH GOOD PRODUCT-COGNITION": it explains 12.6% of the total variance and is characterized by men with a high consumption frequency and a good knowledge of the product but without a wine designation cognition; this component refers mainly to Italian consumers.
- Component n. 4 "MATURE BRAZILIAN CONSUMER": it explains 9.5% and it is correlated to mature men, mainly Brazilians, without a detailed recognition of the product and with a preference for the wine-profile n. 4, that represent the most common type of Montepulciano d'Abruzzo distributed by large retailers in Santa Catarina State.
- Component n. 5 "MEN WITH A POOR PRODUCT-COGNITION": it explains only 7.6% and it is correlated above all to male subjects that declare that the acronyms DOP and DOC do not indicate qualitative differences; at the same time, this component is correlated to the lowest product-cognition.

The results of Factor Analysis confirm that price seems to be the variable that influences, more than other components, the consumer demand analysed in this paper.

We can also verify another confirmation of results of Factor Analysis, which is the presence, in the wine market, of a component characterized by the feminine demand that should be considered, if confirmed by a larger survey, for successful wine marketing.

4. CONCLUSIVE REMARKS

This study provides a non-traditional demand analysis, based not only on demographic and behaviour aspects of wine consumers but also on variables that indicate the individual acceptance for specific product attributes and the perception of changes in regulatory policies.

Also aspects of wine labelling and presentation, which are not usually analysed and are directly linked with regulatory policies, affect consumer perception, especially when linked with naturalness, quality control and safety aspects.

In our analysis attributes like membership in a Protected Designation of Origin Consortium (that may mean a deeper quality control guarantee) and the indication of wine produced and bottled in the enterprise have higher importance than organic certification for Italian consumers. Also the absence of the "contains sulphites" indication has some importance. These are all elements of further differentiation within the designation of origin wines category.

The comparison with consumers of a so called new consumer country, Brazil, indicates interesting similarities and differences with Italian ones. Brazilians are sensitive to aspects related to safety (the absence of the "contains sulphites" indication) and less sensitive to aspects related to quality and control of the food chain (i.e. bottling location and membership of a Consortium). The organic certification has a low importance for both Italians and Brazilians consumers.

Price is confirmed to be a key element in both countries, and we have to underline that high positive influence of price on consumers' preference concerns the wines of the category "premium" and "popular premium".

Even if the results showed must be considered as a first outcome, meanly because the Brazilian sample need to be extended to have a similar composition of all the variables to the Italian one, interesting possibilities open to export oriented Italian enterprises for using different means of differentiation.

The paper shows the importance of further differentiation concerning different regulations within the denomination of origin category, even if the perception of each message may be different in the two countries.

The differentiated attribution of quality to brand DOC rather than to PDO have to alert EU policy-makers to the need to inform wine consumers in a more efficient way, considering that the Factor Analysis results indicates only a component correlated to the correct answer about these quality indicators, and it is at the same time correlated to a poor product-cognition. Labelling of designation of origin wines with different indications (PDO and / or DOC) and using the Community PDO Logo can increase consumers confusion.

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