The Coexistence of PDO and Brand Labels: The Case of the Ready-sliced Parma Ham

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Abstract

The general purpose of the paper is to investigate consumer's attitude towards high quality agri-food products. The research analyses PDO labelled products packaged by law in the production area. Within the same area, the Producers' Group imposes the use of the Consortium label as a quality sign. As consequence, collective labels as well are find on a product packaging, by virtue of the fact that not only they graphically and symbolically represent quality, but they also inform customers about the properties of a specific PDO good. Moreover, on the same package other labels (industrial and private ones) are displayed on the same package. At this purpose, the research analysis of the customers' perception of such particular labels combination focusing the case of the ready-sliced Parma ham. The analysis gives the opportunity of evaluating, from an economic perspective, aspects related to the use of multi-labelling strategy.

Key words: PDO, labels, consumer willingness to pay, Quality perception

1 Introduction

In the last decades, the ancient role of food in the globalization process is unarguably recognized. Nowadays, the food sector represent the first globally integrated market and the most fluid example of interaction between international exchanges and local practices (Nutzenadel and Trentmann, 2008).

Within this variegated context, it is interesting to analyse how the European quality schemes for agri-food products might function as a means both to protection and to develop strategies. This is because, at the same time it preserves the high quality of traditional method of productions, it can attract the furthest purchasers who are motivated by their reputations.

Factors, that stimulate these concerns, are also related to safety issues. Pesticide residues, saturated fats, veterinary drugs, the Bovine Spongiform Encephalopathy and the Swine Flu, are just some of the factors that are gradually pushing the society as a whole to be more cautious about the quality of food (Botonaki et al, 2006). Because European consumers concern is growing every day, quality policy able to assure the safeness of local productions is becoming the focal point of a successful marketing strategy.

Producers, who adhere to PDO, PGI and TSG certification schemes, are formally declaring their conformity to a socially responsible way of doing business by facing all the costs related to it. Within the agri-food sector, these costs allow them to avoid the risk of imitation by the competitors, to differentiate themselves, as well as to justify a higher price to costumers (Botonaki et al, 2006). Investments into quality certification schemes become so a way to improve the brand reputation (Arfini, 1999).

The high quality, the link with the tradition, the strong relationship with the territory and the local community, make the local agri-food products unique. Marketing those products probably represents a challenge in the globalized era where, by contrast, there is no space for the local dimension.

The aim of the paper is to analyse the consumers' monetary perception of quality signs as Protected Designation of Origin (PDO) and Consortium labels. These quality signs could be considered a special type of branding differentiation strategy by virtue of the *value* they generate for consumers: They represent a warranty of authenticity, genuineness and safety (Verbeke, 2013), but also the link with the history and the people of European regions (Arfini et al. 2010).

Many PDO products at marketplace show a multiple labelling system, in the sense that PDO mark, Consortium and private labels, producers and/or distributors brands coexist on the same packaging. PDO Parma ham is not an exception to the coexistence of different labels, which aims, according to the Production Regulation, are to provide indicators of trust to consumers with respect different quality features of the ham.

Given such a complex framework, the paper will examine the relationships between different labels on the ready sliced

format of the Parma ham. Therefore, the investigation of the consumers' perception of multiple quality signs, in terms of co-branding problems, will be the main topic of the research.

The case of ready sliced PDO Parma Ham present several interesting issues: i) the positive market trend of this product; ii) the leading role of the Parma ham Consortium for consumers (www.prosciuttodiparma.com); iii) the relevant space on the food-tray format occupied by the Consortium logo. Moreover, even if the Parma ham is the most famous and the most imitated ham in the world, not much of economic research has been dedicated to the investigation of the consumer willingness to pay for the most recent ready-sliced version.

The focus on labels it is mainly motivated by the Lancaster's approach that underlines how the consumer's perception of quality it is based on all those product information she is able to get and elaborate. This is why quality labels, conceived as *extrinsic cues*, need to be clearly related to specific product attributes. Keeping into consideration the value that consumers give to their informations and expectations the paper leads the analysis considering the hedonic price (Triplett J., 2006), through the application of the Contingent Valuation Method (Mitchell and Carson, 1989).

The paper is organized in five section. The first section is dedicated to review the theoretical background according to the contribution of Lancaster (1966), Arfini (1999), Van Ittersum (2007) and Dickinson and Heath (2005). The second section will analyse the Parma ham complex labelling system, stressing how it has been translated to a ready sliced format. Section three will present the methodology of the empirical research through the implementation of a specific questionnaire. Section four, will present the main results while section five will provide some conclusions and indication for further research.

2 Theoretical Background

Many researchers have dedicated their works to understand the factors that may influence the consumers' expectations about quality. The absence of a formalized concept of quality is probably the weak point that misleads consumers and that creates an obstacle to the implementation of quality strategies (Morris and Young; 2000). Quality definition consider a multi dimension approach where different actors of the global value chain has different visions: for customers', quality is mainly food safety and health issues, while producers consider quality as a marketing opportunity (Morris and Young, 2000).

However, intrinsic and the extrinsic quality attributes, for food productions, are considered as fundamental quality properties (Luning et al., 2002) in process of consumer's perceptions definition. Indeed, the individual's evaluation of material and immaterial features creates the essence of quality, allowing the researchers to distinguish between "intrinsic" and" and "extrinsic" quality characteristics.

Lancaster studied the perception of quality attributes in 1966. Its model indeed, represents the most important contribution that shaped completely the theoretical approach of researches on monetary values of quality attributes. In his 1966 paper *"A new approach to consumer theory"*, Lancaster theorised that a product can be defined through its qualities, conceived as its own product characteristics, and its set of values. He broke away from the traditional theories deriving instead a utility function from consumer preferences. Consumption is perceived as an activity able to transform goods into multiple qualities attribute (Lancaster, 1966).

According to Lancaster theory, the individual perception of a quality label, derived from the consumption activity, has an impact on the consumer utility. Therefore, he created a methodological framework useful to evaluate individual's ability to maximize her own utility, without properly knowing consumer's preferences (Ladd and Zober, 1977).

Moreover, Lancaster worked around the definition of the existing relationship between price and product characteristics. He observed that splitting the product into its features implies also to take into consideration different sets of prices for different properties. The advantage of decomposing the product and the consumer's decision-making process is to observe all the variables involved, understanding which elements regulate utility, and finally monetize them. Indeed, the theoretical approach suggested by Lancaster offers multiple possibilities in terms of analysis, having created a solid infrastructure for further economic models (Ladd and Zober, 1977).

The Lancaster model, including the tentative to evaluate the potential success of the European certified quality labels, has inspired many empirical analyses. For small and medium enterprises by registering their products as PDO, could become the best strategy to create value by reducing information asymmetry and avoid imitation. In this case, the intervention of superior institutions, such as the European Union, could act as a warrantor of the competitiveness among the food companies.

However, must be taken into consideration the level of trust generate by European Union and other producer organization (or groups) as PDOs Consortium. These latter not only create the right environment to exploit PDO/PGI products by defining specific production regulations. PDOs Group can also be considered co-ordinating institutions

that allow information accessibility to all the stakeholders, including consumers (Sylvander et al, 2000; Reviron and Chappuis, 2011). For these reason the PDO logos are perceived, by consumers, as sign of quality and contribute to increase the reputation of the producers.

The analysis of relationships between different logo as sign of quality under PDO environment consider several researches. For the purpose of this research are considered the works by Arfini (1999), Van Ittersum's (2007), and Dickinson and Heath's (2005).

Arfini (1999), for PDO Parma Ham and PDO Parmigiano-Reggiano, compare the consumers' willingness to pay in presence of PDO Consortium labels and EU PDO logo. His work reveals indeed that (in 1999), the collective Consortium labels had a stronger impact on willingness to pay than the "simple" EU PDO logo. The research point out as consumers did not recognize at all the Community authority as a guarantor of typicality. The measurement of consumer willingness to pay confirmed these findings, given that the Consortia's labels resulted to have a higher value than the PDO ones.

Van Ittersum et al. (2007) studied the consumers' decision-making process from a slightly different perspective. The aim of his work was indeed to observe how PGI/PDO labels enhance the economic performance of SMEs. Therefore, considering some European typical products, including also the Parma ham, he investigated on several issues: the consumer's willingness to buy, the willingness to pay and the behavioural response to a price premium considering the influences of different quality attributes (as region of origin and reputation of regional certification labels). The Van Ittersum's paper stressed that reaching high quality standards is the best way to obtain and maintain favourable product reputation. Moreover, consumers of regional products are quite sensitive to the PDO labels, having a positive attribute towards them, thanks to the quality warranty dimension and to the local economic support.

Dickinson and Heath (2005) investigated on the "co-branding" marketing strategy. Usually this latter strategy takes place in a cooperative framework that most of the times take the shape of strategic alliances (Hartman et al, 2010). While Dickinson and Heath's work is marketing oriented they, as well, investigate on the consumers' decision-making processes. Dickinson and Heath show as through co-branding strategy it is possible to transfer positive associations of quality attributes from a single brand, for example of high quality, to a multi-brand format. This is exactly the positive expected result when a producer decides to obtain a PDO registration and/or to become part of a PDOs Consortium. Producers from co-branding strategy can obtain relevant benefits in terms of reputation, marketplace exposure, new promoting campaigns, and access to new markets.

The three theoretical works lead to the development of the research hypothesis investigated in the paper: A high quality perception towards one or more labels is associated with a more favourable consumer's attitude towards the other labels as well.

3 The Parma ham labelling system

The Consortium of Parma ham originates in 1963 under the initiative of 23 producing firms, creating the Parma ham agri-food district. This latter is famous at worldwide level (Cainelli and Cattaneo, 2010). The aim of the Consortium, when he was born, was protecting the value of Parma ham quality at national and international level. Since then, its mission remained unchanged, being able of guaranteeing to consumers the highest quality level and food safety.

The European Union has recognized the value of Parma ham. The Parma ham name, indeed, according to the Regulation No 2081/92, was register as a PDO product since 1996. The PDO Parma ham Consortium, nowadays has a coordinating role related several issues. It play a role in definition of production regulation, research and development, collective marketing strategies and communication in order to manage the image and the reputation of the collective brand. Within the Italian national borders as well as abroad. It has to be mentioned that the international sales of PDO Parma ham cover the 27% of the business, while the national ones the 73%. It is so possible to consider also the high international success of this Italian delicacy and its potential for a further expansion towards the extra-domestic market. The Parma ham business indeed, it is of fundamental importance in its region, considering that its production has an overall value of 740 million Euro, which 231 million Euro are exports. The production chain involves 150 ham companies, 4.286 pig farms and 129 slaughterhouses. In total more than 30.000 employees are committed to the ham processing phase. (www.prosciuttodiparma.com).

The success of the PDO Parma ham has also attracted third producers in the area of production defined by the production regulation, creating a stronger heterogeneity of firm within this productive context (Dentoni et al., 2012). During the last decades indeed, new firms entered the Consortium, producing both PDO and non-PDO hams. This parallel production is even greater than the PDO one (Giacomini et al.; 2010). Non-PDO ham production could represent a risk for the PDO-Parma ham reputation. Very often indeed, the non-PDO ham uses the same technological facilities and the same methods of production of PDO ham. For non-PDO ham, pork meat from Europe is used, that is

usually cheapest of PDO meat, but advantages are also to reduce the cost of the PDO certification, that are compulsory for a PDO ham (Dentoni et al., 2012).

The Consortium's responsibilities are limited to the definition of collective marketing strategies (including the use of the Parma ham Consortium logos). Moreover, the Parma Quality Institute (PQI) has the role of managing and granting the adherence of producers to the rules of the Production Regulation, the disciplinary policy that regulates all the production phases, from the pigs breeding to the ham distribution, including the use of logos and marks.

The production regulation contains the history of the product and of its tradition, but first it clearly define the technical rules of production. Therefore, it represents a sort of constitutional legal document, a guide that imposes the conditions to fulfil by all producers.

Among the many prescriptions provided by the Production Regulation are relevant:

- physical, chemical and biological characteristics of the ham, stating that the Protected Designation of Origin and the Parma Crown are reserved exclusively to those hams with a certain shape, taste, weight, colour and many other properties described very accurately;
- the description and the delimitation of the geographical area where the pigs breeding and the production has to take place: the province of Parma, in the Italian Region Emilia-Romagna. the breeding of livestock pork that could become Parma ham, requiring the specified feeding, the breeding phases, techniques and structures with a detailed description of the environmental and traditional context;
- meat processing methods to obtain the PDO Parma ham, from the butchery conditions to the ageing;
- eligibility requirements for the firm admission as a Parma ham producer, like bureaucratic aspects and the technological facilities;
- legal requirements to be respected at national and international level, aiming at preventing any kind of fraud, like the improper use of Parma as indication of origin on third unauthorized products;
- graphical elements related to the label presentation, identification and labelling of the ham both for whole hams and for ready-sliced Parma ham.

The Production regulation defines very strict and precise criteria concerning the identification of the product of PDO-Parma ham. At this purpose, a sophisticated and complex labelling system functions as a quality guarantee for the final product (PDO ham) and for every step of the production process. As consequence, there is a set of signs so defined (Production Regulation): i) farmer's stamp; ii) slaughterhouse sign; iii) seal; firm number (www.prosciuttodiparma.com). The Parma Crown, as the most important quality sign, deserves some more attention, especially to better understand also the Consortium's position in managing it. Indeed the Consortium of Parma ham in the past was the direct owner of the crown mark, and it was entirely responsible of its use. After the Regulation (EEC) No.2081/92, the system has changed. The collective mark is registered within the EU Production Regulation system (Door database) and it is be considered as a "public good". It has to be remembered that the Parma ham can be produced and then sold in at least three different formats: with the bone ham, boneless ham and the ready-sliced ham that is proposed in food trays.

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Furlotti's Parma ham with bone (<i>Furlotti web site</i>).	Boneless Furlotti's Parma ham (Furlotti web site).	<i>Ready-sliced Furlotti's Parma ham into its food tray</i> (Furlotti web site).

Given the extremely positive trend of the ready-sliced PDO-Parma ham, that is recently the leading product of the international market expansion, the attempt is to give a contribution to the marketing research that focuses on the consumers' acceptance of such a high quality PDO sliced ham. Its success is confirmed by the data: the increase of PDO Parma ham in food tray is estimated by 120% in 10 years. In 2013, 72 million packs was been sold, of which 17 million in Italy and 55 million packs abroad.

Because it is not possible to mark directly the ready-sliced meat, the Production Regulation imposes that the labelling system is adapted to the food tray format. Therefore, a dark triangle on the left top corner contains the Parma crown, the Protected Designation of Origin label, the producer's data and the warranty that it was been packaged under the control of Parma Quality Institute.

The PDO producer can manage the remaining free space freely, respecting the rules related to the dimension of the transparent area through which the ham is observable. PDO producers can use this space for its logo or for distributor label (like a supermarket chain logo) or leaving without empty any logo. Within the Production Regulation a particular directive has been entirely dedicated to the slicing and packaging conditions that have to be respected. Here there are some of the focal points (Production Regulation):

- the location of the packaging laboratories is limited to the Parma "typical area". Moreover, the laboratories have to be equipped in a specific way and they have to be recognized and approved by the Parma Quality Institute;
- to be considered adequate, the packaging laboratories have to fulfil some prerequisites concerning the processing areas, the hygiene rules, the behaviour of the personnel, the maintenance of the machineries;
- the technological procedures to the vacuum-sealed packaging are defined with the specification of materials as well;
- precise graphical requirements besides the rules already explained above, there are more details added, like the percentage of the space covered by the triangle, that must be the 25% or the 18% under other precise conditions, the expiring date, the ingredients, the net quantity, the conservation procedures, the date of the starting ageing;
- the properties of the ham directed to the slicing procedures are described as well: the humidity rate, the water activity and the weight category are just some of them;
- the control procedures carried by the Parma Quality Institute, the data recording methods and the relative expenses management.

The production and the packaging methods of the ready-sliced Parma ham have been defined (even if with some differences) since 1996, when the Production Regulation has been registered at the European Union Commission, under the Regulation (EEC) No 2081/92.

4 The empirical analysis

A questionnaire was developed in order to investigate the consumers' behaviour concerning, their consumption habits, their willingness to buy and pay, their ability of recognizing the different labels and finally the perception of the PDO Parma ham quality level.

The questionnaire translate inputs from focus group into a standardized and stable format. It is divided into four macro areas dedicated to: i) the collection of personal information, ii) the knowledge and the attitude towards the ham and its related labels, iii) the meaning of different logos; and iv) the estimation of the monetary value of different label combinations. Thanks to its flexible construction and the wide variety of information typologies, the questionnaire is quite versatile and allow to represents the consumer reaction toward different brand combinations on the food try.

The same questionnaire was submitted to two different groups: the first has the full informations regarding the meaning of different labels; while the second group has only the logo without any explanation concerning their meanings (Table 1).





Consider two group of respondents, with different level of information, allows to test the willingness to pay of different brands combination but also if an asymmetry of information among consumers does exist and then evaluate its economic value. In total 185 questionnaire (97 with full informations and 88 with partial informations) were delivered to a master student of Medicine school at University of Parma.

The questionnaire consider different thematic questions concerning:

- Salumi consumption: it focuses on the general consumers' appreciation for meat and salumi;
- Ham consumption: it evaluates the presence of ham into consumer's consumption habits;
- Ham intrinsic features: it analyses how respondents have rated all the relevant ham characteristics;
- Ham differentiation: it examines if the respondents were able to differentiate a PDO ham from a non-PDO one;
- Parma ham producers: it test the familiarity the respondents had with some Parma ham producers;
- PDO label: it observes the respondents' knowledge of this label;
- PDO Parma ham: it define consumers' knowledge of the value of Parma ham and its reputation;

- Supermarkets: according to Dickinson and Heath respondents have been interviewed about their perception of two different supermarket companies that has two different consumers targets: Billa and Coop-Italia;
- Ham producers brands: this group of questions is instead dedicated to the evaluation of two ham producers brands: one famous at national level (*Citterio*) and one at local level (*la Felinese*);
- Multi brand strategy: in this group of questions, labels are artificially associated, experimenting different labels combinations with the aim to evaluate the quality, and the ratio price quality, of several combinations of different labels referred to:
 - the Parma Crown associated with the PDO logo;
 - the distributor's company (Billa and Coop-Italia);
 - the Parma Ham producer (La Felinese and Citterio)

Three series of packages (Table 2), with the combination of the three labels mentioned above (in total 9 combination), have been considered in the questionnaire. In every series, from the same food tray, gradually is removed all its labels, so that it is possible to check if the consumer awareness changes according to trust and to the reputation of different logos and marks. It has to be stressed that the product is always the same in every series, 100 grams of ham, as a consequence, the respondent is actually evaluating only the labels.

The first series present:

- the first tray considers the presence of all the three labels (the *Parma Crown*, the distributor *Billa* and the producer La *Felinese*);
- the second tray presents a combination of two labels (the distributor *Billa* and the producer *La Felinese*);
- the third combination considers only the presence of one label (the distributor *Billa*).

The second series present:

- the first tray considers the presence of all the three labels (the *Parma Crown*, the distributor *Coop-Italia* and the producer *Citterio*);
- the second tray presents a combination of two labels (the Parma Crown and the producer Citterio);
- the third combination considers only the presence of one label (the producer Citterio).

The third series present:

- the first tray considers the presence of all the three labels (the *Parma Crown*, the distributor *Coop-Italia* and the producer *Citterio*);
- the second tray presents a combination of two labels (the Parma Crown and the producer Citterio);
- the third combination considers only the presence of one label (the Parma Crown).

 Table 2.

 Series of packaging with different label combination on the food tray.

First series: from multi- label to the distributor's label	Sector Se	A contraction of the second seco	
	PDO-Parma Crown + La Felinese + Billa	La Felinese + Billa	Billa
Second series: from the multi-label to the producer's brand	CITERIO Bosenato Bose	CITERIO Barna Districtione Contractione Cont	Entremented and a second and as second and a
	PDO-Parma Crown + Citterio + Coop-Italia	PDO-Parma Crown + Citterio	Citterio
Third series: from the multi-label to the PDO- Consortium label	Corrections	CITERO	
	PDO-Parma Crown + Citterio + Coop-Italia	PDO-Parma Crown + Citterio	PDO-Parma Crown

Objectives of the research was to estimate the monetary value that consumers attributes to each label and the synergic effect between them with particular focus on the "PDO-Parma crown". With this intention, respondent was ask to *tick how much less they would pay for a product with less labels*. The initial price was set for every 100g tray in \in 6.00, then, the respondent was invited to choose lower prices between 0%; -5%; -10%; -15%; -20%; -25% for the next two trays.

The consequent difference between the starting price and the lowered price it will represent the monetary value they assign to the previous label.

al the questions related to evaluate the quality perception are organized by means of a 1-7 Likert scale. The interval between the numbers 1 and 7 represents the response categories ranging from "strongly agree" to "strongly disagree", as a consequence 4 is considered as a sign of indecisiveness, given that it represents the median value (Peterson, 2000). All data went elaborated, in this phase of the research, in order to obtain *mean*, *mode* and *median* of all the answers for each question.

5 Results description

For shake of simplicity, this paper present only the results concerning both the economic value of different brand combinations and the value of information asymmetry.

Considering the average value of different brand combinations results clearly shows the synergic effect of the co-

branding strategy (Table n.3). The value of *PDO-Parma Crown* is set in ≤ 0.90 for food tray when the PDO-Crown label is "alone", but when it is associated to others labels the value change significantly. It increase at ≤ 1.14 when it is associate to a local and well-known ham producer company (La Felinese). By contrast, the joint value of the brands combination, *PDO-Parma Crown plus Coop-Italia* for informed consumers rise at ≤ 0.97 while it is ≤ 0.87 for non-informed consumers (Table n. 3).

It is interesting to note that the absence of the *PDO-Parma Crown* reduce the hedonic value of the food tray. The combination of Citterio plus Coop-Italia reduce the value of the ham in the food tray at less than \notin 0.75; the same value (\notin 0.75) is perceived when the label of Coop-Italia is "alone" (Table n. 3).

Label combination	Presence of information	€food tray
PDO-Parma Crown	no	0,91
	yes	0,90
La Felinese plus PDO-Parma Crown	no	1,17
	yes	1,14
Coop-Italia plus PDO-Parma Crown	no	0,87
	yes	0,97
Citterio plus Coop-Italia	no	0,71
	yes	0,75
Coop-Italia	no	0,69
	yes	0,75

 Table 3.

 Series of packaging with different label combination on the food tray.

Concerning the impact of the "knowledge" in the value creation $\operatorname{process}^1$, it is interesting to note as respondents with "more" informations have a sensible positive willingness to buy ($\in 0.10$) only for the association between Coop Italia and PDO-Parma Crown. In the hypothesis that respondent have carefully read all the available informations on questionnaire, come clear as, for consumers that do shopping at Coop-Italia, more informations justify a higher willingness to pay. At the same time the PDO-Parma Crown do represent a clear value added (Table n. 4) for consumers too. The investigation show also as additional informations on the PDO-Parma Consortium. At the same time, additional informations do not change the perception of the images of local producers already well reputed.

Table 4.

Value of information asymmetry.

Label Combination	€food tray
PDO-Parma Crown	- 0,01
La Felinese plus PDO-Parma Crown	- 0,03
Coop-Italia plus PDO-Parma Crown	0,10
Citterio plus Coop-Italia	0,04
Coop-Italia	0,06

¹ The value of information asymmetry is assume as price differences between Willingness to buy (Wtb) of respondent who, in the questionnaire, has further information linked to the labels, and Wtb of respondent who has only the labels images.

6 Conclusion and further research

One of the main objective of the quality policy supported by Europe by means of the "Quality Package" is to increase the awareness of local producers by increasing the reputation of their brands on the market. In this sense, traditional products can take advantages by the image that collective organization or "Groups" which aim is to define quality roles and manage collective marketing actions. This research show as the reputation and the brand awareness of collective organizations can be a tools for increase the reputation of the single producers companies that belong to collective quality systems and accept the collective rules. At the same time, modern distribution can take advantages in term of brand awareness too.

Therefore, the condition of value creation is link with the management capability of managers of single and collective organizations in developing alliance and create effective co-branding strategies.

The results presented in this paper goes clearly in these directions. Never than less, data collected by the questionnaire will be further exploited using quantitative analysis aimed to understand more deeply how consumers perceive the value of PDOs by means of a self-assessment of the consequences related to the PDO consumption.

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