Third party labeling and the consumer decision process

The case of the PGI European label

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Abstract
The objective of this research is to explore the decision-making process of consumers when faced with food products that have values-based labels. An experimental methodology was used to test the impact of a label of origin guaranteed by the European Union, the Protected Geographic Indications (PGI) label. Consumers' reactions to two different products were investigated with four different presentations: without a specific label, with a simple regional label, with both a regional label and the PGI label and, finally, with the previous two labels along with an explanation of the nature of the PGI label.

Using a semiotic perspective and based on the existing model of brand equity, a framework of label equity was constructed. An experiment was devised that tested the framework on a sample of 488 consumers. Perceptions of two food products were tested using photographs of each with different levels of regional and PGI labelling. The perception of overall quality was found to depend on both the consumer's awareness of the label and the label's subsequent ability to generate positive descriptive and inferential beliefs. Label equity thus enhanced purchasing intention.

The impact on overall quality and purchase intention only emerged, however, when the relatively unrecognised PGI label was explained to consumers, thus highlighting the importance of building awareness of a values-based label. When it was explained, the values-based label was shown to operate as an effective market signal that generated both descriptive and inferential beliefs in relation to the products bearing the label. These beliefs in turn explained consumers' perception of overall quality and influenced purchasing intention.
By investigating the dimensions of label equity and by explaining the mechanism whereby values-based labels are perceived by consumers, this research offers firms a methodology for improving the commercial viability of values-based labelling schemes. Policy makers can also benefit from these insights to develop clearer understanding of how labels are actually interpreted by consumers. Finally, consumers – individually and collectively – will be better served by labelling schemes that incorporate an understanding of their perspective and thus reduce misinformation.

**Key words**

Food labels, Protected Geograhic Indication (PGI) labels, label equity, consumer decision process.
Introduction

In Europe, a growing number of labels protect certain food products based on their origin. As adhering to the associated quality standards incurs costs for food producers (Cheftel, 2005), the decision to participate in a collective process to develop an origin-linked product is strategic and needs to be profitable for participants. An assessment of the true consumer impact of the PGI label is thus clearly beneficial to decision-makers who need to research this decision. The objective of this research is to investigate the process through which a third party label influences the consumer’s perception of the products that carry it and impacts their purchasing behavior. Little empirical work exists on the question of the consumer impact of values-based labels. Although a labelling strategy may be termed as a ‘signaling’ activity in the marketing literature (Kirmani and Rao, 2000), its impact will be determined by its potential to achieve the objectives of the labelling scheme in relation to the investment necessary to participate. Participants are thus interested in knowing the commercial effectiveness of the label in the marketplace. For policy makers, the findings of studies measuring the potential benefits to consumer welfare from effective labelling either make assumptions about consumer reactions to labelling information (Ibanez and Stenger, 2000; Hussain, 2000) or refer to the importance of understanding the consumer behaviour mechanism. In analysing the role of public authorities in protecting consumers from fraudulent claims, Grolleau and BenAbid (2001), for example, state that "the effectiveness of third-party intervention means generating consumers' trust and influencing their purchase choice" (p.213).

The values-based label to be investigated operates in the food market to indicate to consumers that the products benefit from the European Union designation as a Protected Geographical Indication (PGI). This PGI label is one of three EU labels created in 1992 as a system to
protect and develop food products that have a link to a particular geographic location. This type of labelling had long been accepted in the marketplace for different European wines. It was adopted as a way to offer strategic opportunities to food producers and transformers in Europe and to support economic policies that foster higher value-added activities in agriculture than those in commodity markets. (see Exhibit 1)
Since June 1992, the European Union has sought to offer protection to manufacturers of superior food products that have gained a reputation beyond their region of origin against unfair competition from non-regional producers who benefit from their name. To protect such products, to avoid misleading consumers and to encourage diverse agricultural production, the EU offers producers three procedures to promote and protect their products that are either linked to a geographical area or possess a defined traditional character.

The label that was studied is called Protected Geographical Indication (PGI). It requires that a geographical link must occur in at least one of the stages of production, processing or preparation and, in addition, producers are required to adhere to certain standards. To benefit from the protection, a group of producers must first apply to their national authority through an industry body. The application is studied and processed at national level and then passed on to the European Commission. Following a number of control procedures, the name is published in the Official Journal of the EU and, if there are no objections, the protected product name is registered.

The more restrictive European labelling scheme called Protected Designation of Origin (or PDO) requires that the foodstuffs in question ‘must be produced, processed and prepared in a given geographical area using recognised know-how’. The third possibility is to register a foodstuff as a Traditional Speciality Guaranteed (or TSG) which does not refer to the origin but ‘highlights traditional character, either in the composition or means of production’.

In 2006, over 700 geographical indications (PGI) and destinations of origin (PDO) had been registered, not including wines and spirits and another 290 were being processed (European Commission, 2007a). In France in 2003, sales of products registered with the PGI label alone reached €1 billion (approximately £0.70 billion or $1.26 billion) and represented 25,000 producers (INAO, 2007). It is commonly accepted, however, that the labels awarded through this procedure remain virtually unrecognised by consumers (Barjolle and Sylvander, 2000) and certain producers, processors and distributors are dissatisfied with the results of participation in the scheme (Jullien and Smith, 2004). Not only must the EU face fierce
resistance to the adoption of these measures – accused of operating as protectionist – at World Trade Organisation level (Buck and de Jonquières, 2003), but within the sectors under study, their effectiveness in achieving their stated aims is not universally accepted. In Italy, for example, PDO labels were found to have no direct effect on product preference and consumers without a specific appreciation of the regional nature of the product focused more on the other product cues of price, colour and appearance. (Van der Lans et al, 2001). A study of the PDO of Zagora apples in the Greek market found that 5.8 percent of respondents to the questionnaire were familiar with the label. Although they found that consumers were positive once provided with information concerning the label, the authors concluded that "the PDO scheme may be problematic as a marketing strategy". (Fotopoulos and Kyrstallis, 2003, p.1370)

The expanding literature on the growing phenomenon of regional food has underlined that it is a pluri-dimensional concept (Holt and Amilien, 2007) and Tregear (2007) has developed typologies in recognition of the fact that local food systems are, in practice, very diverse. To the extent that values promoted by values-based labels in general tend to refer to multiple dimensions and that such labels represent a variety of motivations among their proponents (Barham, 2002), the choice of an origin-linked label as the basis to investigate the broader impact of values-based labels appears to be appropriate. A more accurate representation of how an origin-based label, in this case a PGI label, operates should thus be applicable to other values-based labels.

**Literature review**

The ability of a label to generate values and representations that are likely to influence overall purchase intention for a product is termed label equity. This notion of label equity is derived
from that of brand equity defined in 1988 by the Marketing Science Institute as "the set of associations and behaviors on the part of the brand's customers, channel members, and parent corporation that permits the brand to earn greater volume or greater margins than it could without the brand name" (Keller, 1998, p.43). Brand equity has also been defined as the added value endowed by the brand to the product (Park and Srinivasan 1994). More specifically, Keller (1993) proposes that brand equity be viewed as a dual concept made up of the conscience of the brand and the image of a brand. The first refers to the credibility of the brand and the second to the beliefs generated that may involve different aspects of the brand, termed the intrinsic and extrinsic dimensions of the product. We propose that label equity be conceptualized in an analogous fashion. In so doing, we consider customer based label equity as the differential effect of label knowledge on consumer response to the marketing of a label. We define label equity as the capacity of the label to generate positive associations about both intrinsic and extrinsic dimensions of the product quality (Roe et al, 1999) which, when combined with a sufficient level of credibility for the label, increase overall perceived quality (Zeithaml, 1988). Similar to the concept of brand equity, we use the term "label equity" to cover the bundle of values and beliefs generated by a label. These beliefs are associated with the product because of the label and they can be considered as mediators (Baron and Kenny 1986) of the impact of the label and the overall perceived quality. Such beliefs can influence sales levels and generate competitive advantage (Aaker 1996; Dean 1999) and thus represent the added value endowed by the label to the product (Park and Srinivasan 1994).

A semiotic perspective is used to build a theoretical framework to examine the operation of a values-based label in terms of its impact on consumer behaviour. The values-based label is considered to be a sign that is emitted in response to information asymmetry and that indicates
something that one party knows and wants others to know (Eco, 1988). The ability of a label on a product to give a particular sense depends on the credibility associated to the sign. Credibility is a key variable to the extent that it gives the signaling means its power. A highly credible sign can influence consumer perceptions (Erdem and Swait, 1998) by generating a bundle of representations that explain overall perceived quality and purchase intention. Thus, when easily recognized and considered trustworthy, the label consumers see (the Signifier) gives rise to sense, values and beliefs (the Signified) in relation to the product and this Signified can explain consumers' attitudes toward the product. The stronger this label equity, the stronger will be the impact of the label.

![Figure 1](image.png)

**Figure 1** Theoretical framework of values-based label equity

While there is no guarantee in relation to the quality assurances afforded by the growing number of labelling initiatives (Nilsson, 2004), the existence of an independent third party has the potential advantage of affording the values based labelling strategy the credibility that is needed for it to be justified as an efficient strategy (Golan et al. 2000). The question is thus not simply whether consumers are aware of the food labels but whether the presence of labels is effectively communicating useful information to consumers (Nayga, 1999).
Furthermore, the introductory statement to the EU Directive 2000/13/EC states that “detailed labelling, in particular giving the exact nature and characterisation of the product which enables the consumer to make a choice in full knowledge of the facts, is the most appropriate” (European Commission, 2000, p.29). The research question here is the extent to which the provision of such detailed information to consumers will lead them to make inferences regarding the overall quality of the product (Petrucelli, 1996).

The formation of a judgment of the overall perceived quality of a product often remains a ‘black box’ and the role of a label within the consumer's decision-making mechanism has not been investigated in sufficient detail. As a values-based sign, the label is intended to generate beliefs associated with the product and understanding consumers beliefs and the factors that influence these beliefs is crucial for designing effective marketing and nutrition education campaigns (Nayga, 1999).

Values based label associations increase consumer utility in two ways (Kamakura and Russell, 1993). One involves the associations that are made based on the product attributes and the other concerns the symbolic associations made with no direct relation to the inherent or perceived characteristics of the product. Thus, the presence of a values-based label can generate descriptive and inferential beliefs among consumers (Fishbein and Ajzen 1975; Van Birgelen et al, 2000).

The development of descriptive beliefs is an essential strategy in the creation of evaluations (Van Birgelen et al, 2000). Such beliefs consist of a recalibration of information. In the case of PGI products, we examine the descriptive belief of consumers as regards the ‘traditional process of production’. The second type of belief is inferential and surpasses the information
provided. These beliefs exist as a result of a process of inferring things despite missing information (Pinson 1986). Consumers only form such inferential beliefs when the information in question is important to them (Simmons and Lynch 1991). In the food sector, such inferential beliefs are the two dimensions: ‘pleasure in consuming’ (Thomson et al, 1994) and ‘good for health’ (Fishler, 2001). These two beliefs in relation to pleasure and health are generally considered to be the core evaluative dimensions used by the consumer to infer quality in food purchasing and they are supposed to be positively influenced by a positive sign (Kardes 1988).

We propose a theoretical framework that models the impact of the values-based label on the purchase intention. This framework is subsequently applied to examine in detail the impact of the PGI labelling strategies for food products among French consumers.

Three hypotheses were proposed to test the conceptual framework of label equity.

**H1:** A recognized values-based label (vs. a non values-based label) operates as a credible sign that can enhance perceived quality and intention to purchase.
As a necessary condition for the existence of this sequence is the credibility of the PGI label and as the PGI label remains relatively unknown, we added a research stage in which the label could be explained to consumers. We subsequently propose the following hypothesis:

**H2.1:** The PGI label, when explained to consumers, enhances inferential and descriptive values associated with the product;

**H2.2:** These inferential and descriptive values associated with the product are mediator variables of the impact of the explained PGI values-based label on overall quality.

**Methodology**

To test the proposed framework, an experimental design was developed that allowed for comparison of the impact of consumer response to the same product with different levels of labelling information. Designing the experiment in this way allows us to examine causal relations.

Four types of labelling were manipulated:

1) a standard label;

2) a standard label with a regional label;

3) a standard label and a regional label and the PGI label without any explanation;

4) a standard label and a regional label and the PGI label with an explanation of the role of the European Union in guaranteeing the product's geographic origin.

To avoid product effect and to improve external validity (Campbell, 1969), two different types of products were used. They were chosen specifically as products that differ in terms of
how familiar they are to consumers, as it has been shown that information search and the sensitivity to extrinsic signals can vary with product familiarity (Kardes et al, 1992; Graeff and Olson, 1994). Product 1 was chosen as a product subject to routine purchase with which most consumers are familiar – a chicken. The regional label used for the second labelling scenario for the chicken was "Landes" a region in southwest France known by French consumers for its corn fed chicken. Product 2 was chosen as a product purchased for special occasions, with which most consumers are less familiar – foie gras. The regional label adopted for the jar of foie gras was "du sud ouest", as this is also the region of France from which the product is traditionally sourced as the ducks are fed on locally-grown corn. Hence both regional labels are already recognised signals of quality.

Shoppers in two French cities (Bordeaux and Paris) were randomly selected to participate in the experiment. Consumers were shown a picture of each of two products in this 2*4 experimental between subject design and statement-based questions were asked. The presentation of the photos in the experiment was planned so that each respondent was faced with a mixture of a photo of a chicken with one type of label and a jar of foie gras with a different type of label. Photos were grouped together in such a way that the mixture of signals between the two products was maximised and led to twelve different pairings of the two products. To avoid order effects, the photo of the chicken was presented first to half of the respondents and the photo of the jar of foie gras was presented first to the other half. 488 questionnaires were administered in total. The dependent variables, presented in appendix 1, were measured on Likert scales of 1 to 7 representing ‘totally disagree’ to ‘totally agree’.

The administration of the questionnaires was designed to encourage respondents to react as if they were in a purchasing situation. A short scenario was presented to explain that a new shop
was opening and had commissioned a survey concerning the products it planned to sell. Respondents were asked to reply to the questionnaire in relation to their likelihood to buy products from this shop, thus directing their attention away from the label and placing them in a context of a real purchase situation. As gender, age and education may influence information search (Ippolito and Mathios, 1990), these individual characteristics are controlled and balanced among groups. 242 respondents were male and 246 were female and median age was 30 (range 20 – 50).

No significant differences were found between the four groups in relation to profile questions concerning sex, socio-professional category or income, nor in relation to questions concerning their familiarity with the products or their frequency of purchase. Neither were significant differences found between respondents in the two geographic locations in which the questionnaire was administered. The interest of respondents in the questionnaire was evaluated to judge whether the presentation of the explanation of the PGI label was distracting or increased the respondent's level of involvement (Wright and Lynch, 1995). There was not a statistically significant difference in the level of interest of respondents who were simply shown the photos ($m = 3.8$) and that of respondents who were given the brief explanation of the PGI label ($m = 4.0$, $t(282)=1.3$, $p=0.132$). The different stimuli were not themselves generating different levels of involvement among respondents.

**Results and Analysis**

*Manipulation check*

Firstly, as expected, the familiarity with chicken ($m = 5.2$) is significantly higher than with foie gras ($m = 4.3$, $t(486) = 5.1$, $p<.000$) and the frequency of purchase of chicken ($m = 3.8$) is
also significantly higher than with foie gras (m = 2.5, t(486)=2.8, p<.005). These aspects were measured using a Likert scale of 1 to 7.

Secondly, the differential in credibility (among the three levels of labelling) shows significant differences: the explained PGI label (m = 5.6) is significantly higher in credibility than the regional label by itself (m = 4.8, t(282)=9.0, p<.000). However, unexpectedly, the regional label on its own was significantly higher in credibility than the regional label coupled with the PGI label when it is not explained to consumers (m = 4.4, t(242)=2.0, p=.049). It appears that a values-based label has to be explained carefully to customers to avoid potentially damaging alternative labelling choices made by suppliers. In fact, the presentation of both a regional label and a PGI label does not significantly improve credibility beyond that of a simple, standard label.

Perceived quality and purchase intention

The 2*4 factorial design yielded 8 conditions: means, standard deviation and univariate contrast are shown in table 2. Differences across group standard were significant except when indicated dif.ns. and Levene tests of variances were non significant at p>.01, meaning that variances across groups can be considered as homogeneous.

For the chicken, neither the addition of the regional label nor the unexplained PGI label significantly increased perceived quality and purchasing intention. In the case of the foie gras, while the regional label significantly increased perceived quality and purchase intention there is actually a significant reduction in purchase intention with the addition of the unexplained PGI label. This result indicates that, for a product that represents an exceptional purchase, it could actually be counter-productive to use a label that is not familiar to the
consumers. This could be because an unrecognised label appears "fake" to consumers who assume that it is being used to enhance artificially the appearance of a lower quality product. An unrecognised label can thus potentially reduce the perceived quality of a product that is not purchased regularly.

Thus, the PGI label presented on a product without additional information does not improve the perceived quality of the product and may, in fact, reduce it. Once the PGI label is explained to consumers, however, as an EU guarantee of origin, the impact is indeed significant in terms of both perceived quality and purchasing intention, thus confirming H1. This effect was similar for both the routine and exceptional product studied in this research.

Table 1 Cell Means, Standard Deviation and Anova on Each Dependent Variable

<table>
<thead>
<tr>
<th></th>
<th>With Standard Label…</th>
<th>…and with Regional Label…</th>
<th>…and with PGI (not explained)…</th>
<th>…and with PGI explanation</th>
<th>F – value</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Routine purchase (Chicken)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>61</td>
<td>61</td>
<td>61</td>
<td>61</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Purchase intention</td>
<td>3.5</td>
<td>4.1</td>
<td>3.8</td>
<td>5.0</td>
<td>9.3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1.8</td>
<td>1.7</td>
<td>1.3</td>
<td>1.6</td>
<td>.000</td>
<td></td>
</tr>
<tr>
<td>Overall quality</td>
<td>3.4</td>
<td>4.3</td>
<td>4.0</td>
<td>4.7</td>
<td>14.1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1.2</td>
<td>1.0</td>
<td>1.2</td>
<td>1.1</td>
<td>.000</td>
<td></td>
</tr>
<tr>
<td><strong>Exceptional purchase (Foie gras)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>61</td>
<td>61</td>
<td>61</td>
<td>61</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Purchase intention</td>
<td>4.3</td>
<td>4.7</td>
<td>3.8</td>
<td>5.2</td>
<td>12.2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1.8</td>
<td>1.9</td>
<td>1.3</td>
<td>1.4</td>
<td>.000</td>
<td></td>
</tr>
<tr>
<td>Overall quality</td>
<td>4.4</td>
<td>4.4</td>
<td>4.0</td>
<td>5.3</td>
<td>21.7</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1.1</td>
<td>1.1</td>
<td>1.1</td>
<td>1.1</td>
<td>.000</td>
<td></td>
</tr>
</tbody>
</table>

With Bonferroni adjustment for multiple comparisons, *dif. ns.*: differences non significant

**Values-based label equity and mediating effects**

To test the impact of this label equity to generate positive values when PGI label is explained, a dummy variable was created (unexplained PGI (3) vs. explained PGI (4)) and a Manova was run simultaneously on the three beliefs. The three dependent variables representing one descriptive belief and two inferential beliefs were entered into a Manova with ‘type of label’
as independent categorical variable. Box’s M test was significant at p=.011, indicating non
perfect equality of variances/covariances matrices of the multiple dependent variable across
treatment groups. However, frequencies by group are strictly equal and Levene tests were
non-significant (p>.08), indicating equality of error variance across treatment groups on each
single dependent variable. Running a Manova procedure is thus justified. Given the potential
product effect, the type of product is controlled as a covariable and table 3 shows the results.

Table 2 Results of Manova (with univariate F-value and effect-size)

<table>
<thead>
<tr>
<th>Effect</th>
<th>Wilk’s lambda</th>
<th>Effect size (partial eta²)</th>
<th>df</th>
<th>F-value</th>
<th>Sig.</th>
<th>Pleasure</th>
<th>health</th>
<th>process</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type of product</td>
<td>.923</td>
<td>.077</td>
<td>3/239</td>
<td>6.7</td>
<td>.000</td>
<td>6.2*</td>
<td>ns</td>
<td>ns</td>
</tr>
<tr>
<td>Type of label (non expl. PGI vs. expl. PGI)</td>
<td>.595</td>
<td>.505</td>
<td>3/239</td>
<td>54.2</td>
<td>.000</td>
<td>18.4***</td>
<td>156.3***</td>
<td>9.0**</td>
</tr>
</tbody>
</table>

For univariate data: top value is the F-value, bottom value is the effect size. Significant at ***<.001, **<.01
ns = non significant

Scores for these three beliefs are much improved by the presence of the explained PGI label
(vs. PGI label): significant effects were found on anticipated pleasure of consumption
(F(1,241)=18.4, p<.000), the likelihood the product is good for one’s health (F(1,241)=155.7, p<.000) and the perception that process of production is traditional (F(1,241)=9.0, p<.000).

When explained, label equity enhances simultaneously these three beliefs. H2.1 is thus validated. Consumers' experiential and inferential beliefs about the products they saw in the experimental setting were indeed enhanced by the presence of the explained PGI label.

To explore the mediating effect of beliefs on attitude towards the product, we follow the
procedure suggested by Baron and Kenny (1986). Results are presented in Table 3. Thus we
found that (1) the explained PGI label impacts significantly the three dimensions. When type
of product is controlled, (2) the type of label improves overall quality – model A - and (3) the
three dimensions improve simultaneously and significantly overall perceived quality – model
B. Eventually, (4) the label is no longer significant when the three dimensions remain significant – *model C* - meaning that the beliefs in certain values are mediators of the impact of the type of label on overall perceived quality. H2.2 is thus validated. Consumers' overall perceived quality is influenced by the three dimensions. This means that the explained PGI label influences overall quality perception via the mediating effect of enhanced experiential and inferential beliefs.

### Table 3

**Analysis of the mediator effect of the dimensions of label equity**

<table>
<thead>
<tr>
<th>Model</th>
<th>Dependent variable</th>
<th>Independent variables</th>
<th>R</th>
<th>Adj. R²</th>
<th>Stand. Beta</th>
<th>t</th>
<th>Sig.</th>
<th>Part. Cor.</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Overall quality</td>
<td>(constant)</td>
<td>.41</td>
<td>.16</td>
<td>8.3 .000</td>
<td>1.7</td>
<td>.098</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Type of products</td>
<td>.10</td>
<td>.03</td>
<td>1.0 .324</td>
<td>.50</td>
<td>.000</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>Type of labels</em></td>
<td>.50</td>
<td>.03</td>
<td>6.7 .000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>Overall quality</td>
<td>(constant)</td>
<td>.89</td>
<td>.79</td>
<td>1.6 .102</td>
<td>1.0</td>
<td>.324</td>
<td>.064</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Type of products</td>
<td>.03</td>
<td>.03</td>
<td>1.0 .324</td>
<td>.59</td>
<td>.000</td>
<td>.646</td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>Pleasure in consuming</em></td>
<td>.59</td>
<td>.03</td>
<td>14.9 .000</td>
<td>.32</td>
<td>.000</td>
<td>.515</td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>Good for health</em></td>
<td>.32</td>
<td>.03</td>
<td>9.0 .000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>Production process</em></td>
<td>.13</td>
<td>.03</td>
<td>3.5 .000</td>
<td></td>
<td></td>
<td>.223</td>
</tr>
<tr>
<td>C</td>
<td>Overall quality</td>
<td>(constant)</td>
<td>.89</td>
<td>.79</td>
<td>2.4 .146</td>
<td>.9</td>
<td>.360</td>
<td>.027</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Type of products</td>
<td>.03</td>
<td>.03</td>
<td>.9 .360</td>
<td>.59</td>
<td>.000</td>
<td>.421</td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>Pleasure in consuming</em></td>
<td>.59</td>
<td>.03</td>
<td>14.9 .000</td>
<td>.30</td>
<td>.000</td>
<td>.209</td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>Good for health</em></td>
<td>.30</td>
<td>.03</td>
<td>6.8 .000</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td><em>Production process</em></td>
<td>.13</td>
<td>.03</td>
<td>3.6 .000</td>
<td></td>
<td></td>
<td>.106</td>
</tr>
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<td></td>
<td></td>
<td><em>Type of labels</em></td>
<td>.03</td>
<td>.03</td>
<td>9 .528</td>
<td></td>
<td></td>
<td>.019</td>
</tr>
</tbody>
</table>

Note: R² are adjusted and Betas are standardized, part. cor. = partial correlation

### Conclusion and discussion

The objective of this research was to explore the decision-making process of consumers when faced with products that have values-based third-party labels purporting to be signals of quality. This research proposed and validated empirically a theoretical framework based on the notion of label equity that examines how a values-based label guaranteeing a product's origin operates from the consumer's perspective. The experimental methodology allowed for the testing of the impact of the PGI label when explained, when not explained, and when compared to a local terroir label and standard product packaging. It emerged from the analysis
that a values-based label can operate as a signifier that is a highly credible label of quality. It
does so by generating representations that are activated by descriptive beliefs and inferential
ones. These signified beliefs in values turn out to be perfect mediators of the impact of the
values-based label on the overall product quality. The development of such beliefs is an
explicative factor in a quality judgment that is no longer a ‘black box’ from which the
consumer develops an attitude toward a product carrying a values-based label.

From the firms’ point of view, these results show how values-based labelling strategies for
products need to be analysed to take decisions that ensure the labels are relevant and can be
profitable. The option to label a food product with the PGI label, for example, can be seen to
have genuine commercial potential, but it will only have a positive impact if the necessary
efforts are undertaken to explain clearly to consumers what the PGI label means. These
communication efforts should be particularly strong at the moment when the consumer is
forming quality evaluations and moving towards a final purchase decision. Firms can benefit
particularly from a communication strategy that highlights the advantages of the PGI label in
relation to the quality of the production process. Consumers will thus be encouraged to
develop positive inferential beliefs about the pleasure of consuming these products and the
likelihood that they are good for one’s health.

A report commissioned by the Health and Consumer Protection Directorate of the European
Commission concluded that "although labelling should be a win-win situation for both the
consumer and operator, in practice there is often a market failure and many stakeholders
would argue that labelling is not fulfilling its full potential" (European Commission, 2007b, p.
2). The PGI label has been found to have the potential to operate as a real market signal.
When explained to consumers, it corrects information asymmetries by allowing producers and
users to differentiate products on the basis of geographic origin and to share information that consumers use in their decision-making process. The label is thus an efficient way to avoid trading ‘lemons’ (Akerlof 1970).

The findings of this study indicate that informing consumers of the meaning of the PGI label in advertising and at point of purchase would improve its credibility and generate beliefs that enhance perceived quality and purchase intention. These results offer support to on-going efforts on the part of the EU to improve communication for their origin-labelled food schemes and guidance on how research may be conducted to improve communication with consumers in relation to the PGI and other origin-linked labels. These results should encourage EU policy makers to finance communication campaigns that build recognition. We suggest that the images used in such communication should focus on the beliefs most likely to be enhanced by the PGI label: the experiential belief that the production process for such products is traditional and the inferential beliefs that the products are good for one's health and pleasureable to consume.

This research has certain limitations. First, the external validity needs to be explored as there were only two products tested. Secondly, it is undoubtedly worth investigating whether these results would be replicated if the product without the label was a branded product. If this were the case, it is not certain that there would be such a clear difference with a PGI-labelled product in terms of anticipated pleasure or health effects because brand equity also allows consumers to infer such quality dimensions. Experiential beliefs other than 'traditional production process' could also be tested in future experiments of this type in relation to food purchases. Similarly, it would be interesting to compare the impact of a PGI from a particular region on the relative perceptions of inhabitants of that country and those of other countries.
We suggest that the methodology in this research could be usefully applied to a variety of situations in relation to other values-based labels. At a theoretical level, this will allow researchers to develop a deeper understanding of the manner in which such labels gain credibility among consumers and the processes by which they generate beliefs that have an impact on perceived product quality and purchase intention. Practitioners, policy makers and consumers will benefit from such insights in attempting to build and monitor effective values-based labelling schemes.


### Appendix 1: Statements measuring dependent variables

<table>
<thead>
<tr>
<th>Dependent variables</th>
<th>alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Purchase intention</strong></td>
<td></td>
</tr>
<tr>
<td>If I had to buy a 'chicken/foie gras', I would be likely to buy this one</td>
<td></td>
</tr>
<tr>
<td><strong>Overall quality</strong></td>
<td>.88</td>
</tr>
<tr>
<td>This is a good quality 'chicken/foie gras'</td>
<td></td>
</tr>
<tr>
<td>The quality of this 'chicken/foie gras' is better than other 'chickens/foie gras'</td>
<td></td>
</tr>
<tr>
<td><strong>Dimension 1: Anticipated pleasure in consuming</strong></td>
<td>.92</td>
</tr>
<tr>
<td>Eating this 'chicken/foie gras' would be a real pleasure</td>
<td></td>
</tr>
<tr>
<td>This 'chicken/foie gras' would be really tasty</td>
<td></td>
</tr>
<tr>
<td><strong>Dimension 2: Good for health</strong></td>
<td>.67</td>
</tr>
<tr>
<td>This 'chicken/foie gras' would be good for my health</td>
<td></td>
</tr>
<tr>
<td>This 'chicken/foie gras' could pose a risk for my health</td>
<td></td>
</tr>
<tr>
<td><strong>Dimension 3: ‘traditional’ production process</strong></td>
<td>.68</td>
</tr>
<tr>
<td>This 'chicken/foie gras' is a ‘terroir’ product</td>
<td></td>
</tr>
<tr>
<td>(a French term meaning strongly linked to the area in which it is produced)</td>
<td></td>
</tr>
<tr>
<td>The production process for this product is traditional</td>
<td></td>
</tr>
<tr>
<td><strong>Credibility of label</strong></td>
<td>.86</td>
</tr>
<tr>
<td>This label is honest</td>
<td></td>
</tr>
<tr>
<td>I can trust this label</td>
<td></td>
</tr>
</tbody>
</table>