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## Is Region of Origin a Valuable Cue for the Consumer ? The Case of Olive Oil Sector

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An extensive marketing literature addresses the question of the “country of origin” and in particular the “*made in*”, suggesting that it is used as a quality cue (Han, 1990; Schooler and Wildt, 1968; Verlegh and Steenkamp, 1999).

Studying the “region of origin”, on the other hand, has interested fewer researchers in the field of management. The scarce research (Van der Lans et alii. 2001; Van Ittersum, 2001) that does explore the concept of “region of origin” looks almost exclusively at examples of food products, and has shown that the region is indeed also a quality cue, with comparable effects to those of the country.

Yet the “region of origin” concept has several specific features which differentiate it from the “country”. The region might benefit from a more coherent and homogeneous image than that of the country, which would make it more effective when used in a brand strategy, because it provides a higher diagnostic value when choosing a product. Thus using the “region” name to enhance the value of food products would seem in certain cases to be more relevant than a strategy based on the name of the “country”, and especially for food products (Stefani et alii. 2006).

Besides, when the marketing research explore the region of origin, authors do not consider the question of a possible link between country and region, and therefore have not explored the effects of a combined use of the two concepts (country and region) and rather considered them as alternatives.

Our research context is the olive oil markets, particularly in France. From a managerial point of view, the raised question is twofolds. Is it relevant to promote production regions as quality cues, in the same way this is successfully done for wine or cheese for instance? If yes, at what conditions such policies would be efficient? Is it interesting to use the region names when they are little known by the consumers?

The main objective of this paper is to gain a deeper understanding of the two concepts (country and region of origin) and their possible interactions. In a first part, we review the marketing literature on the geographic origin, which allows us to suppose a possible link between the two concepts and derive our research hypothesis. In a second part, we describe the research design and the results obtained from two successive protocol studies which have been carried out on French olive oil consumers (n=123). Lastly, we discuss the results from both a theoretical and managerial point of view, in the light of the limitations to the research.

### THEORETICAL CONSIDERATIONS

#### *The concept of country of origin and its limitations*

The question of the effects of the country of origin on product evaluation has been studied extensively in the literature. According to Usunier (2006), over four hundred academic articles have been produced in the

last forty years, with a wide diversity in product categories, countries of origin and consumer nationalities. In these researches, the country of origin is often considered as an essential extrinsic attribute to indicate quality (Agrawal and Kamakura, 1999; Ahmed and d’Astous, 1993; Hong and Wyer, 1989; Steenkamp and Van Trijp, 1996; Verlegh and Steenkamp, 1999).

Dichter (1962) was among the first to demonstrate that country of origin can have a major influence on whether products are accepted or are successful. Later, Schooler and Wildt (1968) carried out an empirical test using glassware identical in every respect, except for their country of origin, and concluded that there were evaluated differently. The researches which followed often assimilate the notion of “country of origin” with the *made in* mention.

Usunier (2002) rises however the exaggeration of the country of origin effects on consumer behavior. Using the case of household electrical goods and stereo systems, he showed that 35% of consumers knew the country of origin of their latest purchase, and that only 25% considered that the country of origin label had been “important” or “very important” in their purchases.

Moreover, this *made in* expression is ambiguous, if only from a legal point of view, it can mean in certain countries “produced in”, “assembled in”, “designed in”, “invented in” or “assembled by a producer whose headquarters are in ...” (Papadopoulos, 1993; Peterson and Jolibert, 1995). Interpreting how consumers use this cue in a given situation is difficult.

Several researchers (Chao, 1993; Han and Terpstra, 1988; Li et alii. 2000; Tse and Lee, 1993) have therefore proposed the decomposition of the “country of origin” construct into several dimensions (country of product design, country of assembly, country of manufacture, etc.), whereas Li et alii. (2000) find this decomposition approach rather deficient. Their research showed that only the country of design is relevant in the product evaluation.

The “country image” concept was suggested as another way to try to enrich the “country of origin” concept and the decomposition approach. Several researchers explored the cognitive processes that create a country image, like political and economic informations (Nagashima, 1970; Han, 1989) or the perception of the design quality, of workers’ manufacturing skill, of innovative ability (Roth and Romeo, 1992). As a result, the “country image” cannot be generalised to all products. Roth and Romeo (1992) indicate that is more interesting to examine country of origin in terms of the fit between countries and product categories. So the matches between product category dimensions with the perceived image of the country of origin can be captured.

The literature cited above raises the limits of the country of origin concept. The *made in* approach is too reductive to reflect all the matches between a country and a product. The “product-specific country image” concept was suggested to cover this limit. A large part of the research on the “made in” is based on industrial examples with an overrepresentation of involving products for the consumer, such as electronic goods, cars, clothes or a few generic agricultural products such as “Columbian coffee” (Usunier, 2006; 2002).

Some studies on food products (Carter et alii. 2006; Kleppe et alii. 2002 ; Loureiro and Umberger, 2005) have begun to appear in the literature about country of origin. According to Kleppe et alii. (2002), the product-specific country image has gained importance in the marketing of food products, with examples like French wine and cheese, German beer and Swiss chocolate. In these examples, the origin is used as the most important heuristic evaluation. A country-product marketing strategy, suggesting better quality and enabling a better differentiation of food products, facilitates the evaluation process for consumers. But how relevant are these historic and factual references for decision making ? Papadopoulos (2004) suggested that French wine, for example, has a strong image but that this image has evolved through the product itself rather than through systematic promotion. We need deeper insights into the cognitive processes by which this “country of origin cues” do function.

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### ***Is the region of origin concept different from country of origin?***

A region is defined according to Van Ittersum (2001) as “an area, situated within one or more countries, which forms an entity based on local characteristics such as traditions, culture, and scenery”

Like the country of origin, the region is also used as a quality cue (Van der Lans et alii. 2001). Lagrange and Trognon (1995) state that there are specific associations to certain *terroirs*, and a certain specialization of geographical areas in the consumers’ minds (Auvergne-cheese, Bordeaux-wine, etc.). In this case, the region draws benefit from a reputation around the production of a particular product. This suggests that the region or the *terroir* constitutes a cognitive category with which consumers associate specific products and that certain products appear to be more typical than others.

The “region of origin” cue evokes general regional beliefs (traditions, inhabitants, culture). Consumers’ general beliefs about a product’s region of origin are proposed to be an important source for their affective feelings related to the regional product (Obermiller and Spangenberg, 1989; Van Ittersum, 2001; Verlegh and Steenkamp, 1999). If consumers’ regional beliefs relate to and are consistent with their ideal self-images, and consumers have a strong desire for belonging, the region-of-origin cue provides them with social value (Keller 1998).

Thus the “region of origin” indication, like the “country”, influences perceived quality through a cognitive process. Although region of origin effects are expected to operate through similar processes as country of origin effects, the region of origin has some specific aspects which we will try to investigate, by raising two questions: a) is region of origin a relevant attribute in consumer decision making ? and b) are there any differences between regions depending on their image as a production origin ?

#### **a) The region as an attribute for differentiation**

Several studies (Aaker, 1991; Keller, 1998; Samiee, 1994) indicate that the use of the region of origin image to differentiate products can be compared with the application of a brand strategy.

The image consistence (Kapferer, 1992) is an important success determinant of a brand strategy. From this point of view, regions are more homogeneous in terms of human and natural environment dimensions than countries. They can be better demarcated by natural characteristics than countries, which are more demarcated by their national borders (Cordell, 1992).

On the other hand, the use of a regional cue, comparing to the “country of origin” label, makes it possible to differentiate products both from foreign and domestic competitors. French wine is a good example of a product that is well differentiated according to regions (Van Ittersum et alii. 2003).

The emotional value of the region of origin associated with other specific values is particularly linked with food products, since by nature their geographic origins are rooted in the land in, and on, which they are produced (Sheth et alii. 1999). Delamont (1995) referred to the strong strong historical and symbolic links between regions and foods, due to the interactions between natural resources and people’s lifestyles.

#### **b) Should the region be known in order to constitute an effective cue?**

For the success of the marketing of products on the basis of their region of origin, two conditions are necessary, according to Keller (1998). First, a significant proportion of the target market should be aware of the region. Second, consumers’ regional associations should be favourable and relevant. In the same way, Van der Lans et alii. (2001) indicate that the capacity of a regional indication to influence the performance of regional products requires that consumers should not only be aware of the region and have favourable associations with it (Kapferer, 1992), but they should also be familiar with this region.

Other studies (Aaker, 1991; Van der Lans et alii. 2001), however, note that the promotion of regional products based on the regional characteristics and the product dimensions may be efficient on foreign markets in the same way as the development of a new unknown brand name.

Hence we can ask the following question: is knowledge of a region’s reputation for the product production a necessary condition for the success of a strategy based on the regional indication? Obviously, some regional products have successfully entered foreign markets and contribute to the

success of French agro-food exports, and this in spite of the recurring criticism carried to the lack of visibility of the products and regional specialities which are candidates for export. Well known or not, it would seem that the region of origin is a geographical level of definition that is suitable for getting the best value from food products.

The next question is the following: is it the country or the region of origin that is more relevant when identifying a food product?

#### ***Country and/or region: Which level is more relevant ?***

In a recent empirical study concerning Italian consumers, Stefani et alii. (2006) looked at the size effect of a place of origin on consumer preference in the case of spelt from Garfagnana, a food speciality with a strong regional identity, and they found that more the area is small and well defined; better the consumers value the products.

This interesting study presents however some limitations; first, the notions of “terroir”, “region” and “country” were considered as being alternatives. But is it relevant to dissociate these concepts? A product marketed “Garfagnana” or “Tuscany” includes implicitly the “Italy” origin. The methodology used in the study does not enable us to determine whether there are any interactions’ effects between these concepts. Next, because of the Italian sample, we may have a familiarity bias with the product and the region.

As a conclusion of these discussions, we underline that the literature suggests that “country of origin” and “region of origin” may be conceptually different and do not provide the same informations and images. We propose then to test two series of hypotheses.

The first is to determine whether the name of the region is carrying informations and images different from those carried by the name from the country of origin.

The second series consists in checking whether mentioning the region of origin (associated with the country of origin) influences consumer choice behaviour, in particular when he does not know that this region is related to the quality of a particular product.

### **METHODS AND RESULTS**

This section presents first the general outline of our experimental design, and then we describe successively each protocol relating to the test of our two hypotheses, with the results.

#### ***General outline: Operationalisation of the variables and the sample***

The dimensions of the regional image retained refer to the model suggested by Van Ittersum et alii. (2003), applied to the potato (unprocessed product) and to beer (processed product). This model identifies dimensions relating to agro-climatic conditions, on the one hand, and to processing know-how and traditions, on the other hand.

An exploratory survey was carried out on a sample of French and Tunisian consumers and experts about their perception of the olive oil associations (author and co-author, 2006). This survey enabled us identify three image dimensions (olive variety, natural conditions, human factor). These results validate the two image dimensions highlighted by Van Ittersum and alii. (2003), that is, natural and human conditions, but revealed a third dimension, the olive variety, whereas the potato variety did not appear in the image dimensions of the research by these authors. In our protocol, the olive variety dimension is measured by the item “olive variety”; “natural conditions” is represented by the two items “soils” and “climatic conditions”, lastly the “human factor” dimension is represented by four items (“transformation know-how”, “olive-related traditions”, “diversity of qualities”, “production conditions and quality control”). **Figure 1** illustrates the model which will enable us to test H1 (The name of the region of origin provides consumers with information which is distinct from that generated by the country of origin).

Linked with each of the three image dimensions retained, three sub-hypotheses from H1 were put forward. The aim was to determine whether each of the three dimensions of the image (olive variety, natural

conditions, human factor) is the subject of a difference of contents between the two notions, country and region:

**H1.1: The country and the region both refer to the olive variety.**

**H1.2: The country and the region both refer to natural conditions.**

**H1.3: The country and the region both refer to the human factor.**

To proceed to the validation of our hypotheses, 123 French consumers were questioned. Advertisements on websites were launched; the condition of respondent recruitment was the consumption and the purchase of olive oil. Table 1 describes the characteristics of the respondents.

The surveys were carried out in Paris (non-producing region), with participants were invited in 10 successive groups at a leading oil manufacturers' offices. Each participant received a twenty euros fee and a bottle of olive oil<sup>3</sup>.

**Testing the H1 hypotheses: Do country and region provide the consumer with the same information ?**

**First experimental design**

The production potential of the tested region and its reputation can influence associations relating to the image dimensions. It is therefore useful to check whether an individual's degree of knowledge of the region's reputation is a necessary condition for the region to function as a quality indicator. We therefore decided to consider one region that was "known" and another that was "little known" for production, at individual level.

First of all, respondents chose a region that was known for the production of olive oil and then one that was little known, from a list of suggestions (Gard, Vallée des Baux de Provence, Nyons, Haute-Provence, Var, Nice, Aix-en-Provence, Hérault). Next, they gave their opinions on the association of their chosen regions with the image dimensions (dichotomic "yes/no" questions).

In the same way, respondents evaluated the association between their own country, "France" and the tested dimensions (See figure 2).

**Findings**

We calculated first the percentage of the assertions around an association country, region (known region, little known region for the olive oil production) with image dimensions (See table 2).

As expected, associations of the tested dimensions with the little known region were weaker than with the known region. In the continuation of our analysis we therefore compared "country" level with that of the "known region" in order to determine the dimensions that were specific to the country and those that were linked with the (known) region.

We performed the McNemar test on the data collected. Results are summarised in table 3 (bilateral test,  $\alpha=0.05$ ). Significant differences between "country" and "known region" emerged. Respondents differentiated the country and the region according to four items: olive variety, processing know-how, production and quality control conditions, traditions relating to olive. The null hypothesis according to which the country and the region refer back to the same information could not be rejected in the case of the "soils", "climatic conditions" and "quality diversity" items, but is rejected for all the other factors. H1 is therefore only partially supported (See table 4).

To specify the content of each of the two notions (country and region), we considered the four dimensions which were a subject of differences between the country and the region concepts (olive variety, processing know-how, production and quality control conditions, traditions related to olive). And we analysed the frequency distribution of responses (See tables 5, 6, 7 and 8).

The country image refers more often to resources related to industrial skills "production and quality control conditions", whereas the region image refers to more specific resources ("olive variety", "processing know-how" and "traditions related to olive").

<sup>3</sup> We thank Lesieur and all the producers who provided us with bottles of olive oil to offer to participants.

**Testing the H2 hypotheses: Does the name of the region of origin, when combined with that of the country, modify consumer choice ?**

**Second experimental design**

In order to test the H2 series of hypotheses (the mention of the region of origin, added to the country of origin, influences consumer choice positively), we used the discrete choice method (Hair et alii. 1998) to measure the perceived value of the attributes of olive oil. The choice experimental design enabled us to measure the utility of three attributes: country of origin, region of origin and price.

For the "country of origin" attribute, we selected five olive oil producing countries: Spain, Italy, France, Tunisia and Morocco. For the "regions of origin", we chose to consider both a region that is known and one that is little known for production in each of the five selected countries, relying on the opinions of experts<sup>4</sup> (See table 9). A last option was the absence of the name of the region of origin. In this case, only information on the country was displayed.

We decided to limit ourselves in this research to three price ranges which make up the "core" of the French market, and which include both French oils and oils from abroad, expressed on the basis of 0.5 litre containers, which proves to be a familiar reference point for purchasers in France.

The attributes of the experiment were manipulated according to the procedure of the individualised experimental design and each of the 123 respondents had to carry out 12 choice tasks. Each task contained three alternatives plus a "non-choice" option. Each alternative was described according to country of origin, absence or presence of the name of the region of origin and price level. No particular context of oil consumption was suggested to the respondents. Only the place of purchase was specified: the subject is asked to represent himself standing in front of an olive oil ray in a supermarket (See figure 3).

**Aggregate results**

None of the interactions between the attributes proved to be significant, which means that there is no discernible synergy between region names and country names, and that only the main effects are detectable.

In the main effects Logit model, the estimated value of  $\chi^2$  (415.45) exceeded the critical value of the  $\chi^2$  test (16.92) by a large margin with a confidence level of  $\alpha=5\%$ . The model is therefore reliable, and we can conclude that the choices of the respondents were influenced by the variations in the modalities of the attributes that were presented in the choice alternatives.

In Table 10 we show the individual utility values, and the Student's t test for the three different modalities of the "region" attribute.

As expected, the name of a region known for production was favourably perceived by consumers, the effect of this attribute was significant ( $t = +3.42$ ) and its utility value was of the order of  $+0.1523$ . In contrast, the absence of the name of the production region had a significant negative effect on the consumers' choice ( $t = -3.80$ ), its utility value was negative at  $-0.1805$ . In the case of a region little known for production, the effect is neutral. We noted a non-significant effect on choice behaviour ( $t = +0.61$ ), and a utility value that was positive but nevertheless close to zero ( $+0.0282$ ).

Mentioning the region of origin has a positive influence on consumer choice, at least when this name is known to the respondents, which supports our H2 hypothesis.

Our experiment does show, however, that giving the name of a little known region has a relatively neutral effect. Mentioning the little known region, however, remains better than not mentioning it (significant negative effect). The question raises as to the effect of the initial knowledge of the respondents on the regions and their associations with oil production.

<sup>4</sup> With the help of professionals from AFIDOL, we were able to draw up a list of countries and production regions.

### Effect of consumers knowledge on the perceived quality of regions

In order to draw up a list of regions that are known for olive oil production and others that are little known in relation to the five countries selected for the survey, we relied on the opinion of experts, then verified whether the perceptions of consumers regarding these regions matched those of the experts.

The study controls the degree to which the respondents associated the regions with olive oil production by measuring on a 5-point scale the degree of agreement with the proposals: "Region X, Y, Z...is known for the production of olive oil" and we carried out a t-test on pairs of regions (known regions "KR" and little known regions "LKR, See table 11).

The results show that the distinctions between known and little known regions are not significant in the case of France and Tunisia, and "borderline" for Morocco. Nonetheless, we proceeded to segment the sample on the basis of the consumers' knowledge. To do this, we took the scores given to the five known regions for olive oil production. On a scale of 5, the maximum total for the scores was 25 (5x5 regions). A score of 17 corresponds to the median and the average of respondents scores for the five known regions. We decided then that a total score superior to 17 would designate more knowledgeable respondents. Below this score, we assumed that the consumers did not have "correct" knowledge about the production potential of the regions.

The differences between the two groups proved to be significant. The group of consumers with scores superior to 17 had opinions more coherent with those of the professionals in terms of knowledge than the non-knowledgeable group (familiarity mean score for the first group = 3.87 against 3.08 for the second group on a 7-point scale). This group had also a higher level of expertise in relation to the product (expertise mean for the first group = 4.37 versus 3.54 for the other group on a 7-point scale).

We established two separate Logit models: the first included subjects belonging to the first group (the more knowledgeable respondents n = 66), the second included subjects from the second group (the less knowledgeable respondents n = 57). Both models are significant (1<sup>st</sup> model: maximum likelihood = -1005.57,  $\chi^2 = 184.74$ ; 2<sup>nd</sup> model: maximum likelihood = -813.93,  $\chi^2 = 268.58$ ).

The percentages of importance for the three considered attributes: "country of origin", "region of origin" and "price" for the two groups of respondents are summarised in the table 12.

Results show that knowledgeable consumers give more attention to origin cues (country and region) than the non-knowledgeable consumers (importance percentage of country of origin attribute are 61.79 and 50.36 respectively; importance percentage of region of origin attribute are 16.84 and 7.01 respectively).

The importance of the price as a choice criteria is different between the two groups, less knowledgeable respondents give more attention to this attribute (importance percentage = 42.63 versus 21.38 for the more knowledgeable consumers).

Figure 4 illustrates the utility values for three modalities of the "region of origin" attribute for the two groups of consumers.

The segmentation suggests that knowledgeable consumers are, with a significant degree, favourably influenced by the known regions (Student t = +3.76). The absence of information about the regions of production, on the other hand, has a significant negative effect (Student t = -3.23). In the case of the little known regions, the effect is neutral. This effect was found to be non-significant (Student t = -0.26), with a utility value close to zero (-0.0163).

For the non-knowledgeable consumers, the effects of the different modalities of the "region of origin" attribute proved to be non-significant (Student t = +0.92 for the "known region" modality, +1.15 for the "little known region" modality and -1.98 in the absence of information about the region of production). Even though the trend is the same as for the first group (positive effects for a known region and negative in the absence of information about the region of production), it is interesting to highlight that the utility value of the known region is similar to that for the little known region (+0.0634 and +0.0793 respectively), which confirms the fact that the non-knowledgeable consumers did not differentiate between the two

types of regions. On the other hand, even though the effects are not significant, the non-expert seem to distinguish only two cases: indication of the name of the region of production (whether the region is known or not) which is perceived positively. The second case is the absence of information about the region (only the name of the country is displayed) which is perceived negatively.

### DISCUSSION

#### *Information generated by the two cues: Country and region of origin*

Generally speaking, the validation of hypothesis H1 (region and country are two distinct concepts) suggests that the region of origin is a specific observation unit, and confirms the results of earlier research (Van der Lans et alii. 2001; Van Ittersum, 2001). We may not conclude however that there are no interactions between both concepts. The fact that we find no significant interaction effect in our analysis may well be due to the sample size. The discrete choice methods, because of the experimental design, requires large samples in order to allow such interaction effects to be detected.

Our research also supports the hypothesis that there might be invariants in the dimensions that define the image of a region, in the case of food products, which has not been really demonstrated in the business and marketing literature so far. These invariants have been explored in the economic literature dealing with food quality, which defines several categories of quality that can be classified in two groups: the "industrial" and the "domestic quality" (Barjolle and Sylvander, 2002; Eymard-Duvernay, 1989). Domestic quality is the value attributed by the consumers to the local methods, recipes, traditions, in their overall perception of the quality of a product<sup>5</sup>. This economic literature reveals quite consistently the presence two dimensions of this "domestic quality": the conditions for the production of the raw materials, and the conditions for processing it. This literature theorises that the more processed the food item appears, moving from the status of an "experience-based good" to that of a "belief-based good", the more anxious the consumer becomes about its origins and the processes that have been applied. This anthropological need for reassurance, widely developed by Fischler (1990), explains that the consumer requires information about the origin of the product and the conditions in which it was produced, which gives the food product an identity. From our research, it appears that olive oil belongs to a category of product for which "domestic" quality may be important for consumers, and that the three dimensions defining best the region are local varieties, local know-how and local soils and climate.

#### *Using the name of the region of origin on the international market: is knowledge of a region's reputation an essential condition ?*

The results from the aggregated discrete choice model show that giving the name of a region can have contrasting effects, depending first on whether the regions are well known or not and second on the level of consumers own knowledge.

For all of our respondents, when the region is known for its olive oil production, mention of the name has a significant positive effect on their choice, when the region is little known for olive oil production the effect tended to be neutral (not significant). On the other hand, we noted that the absence of any indication as to region of origin had a significant negative effect.

However, these observations were more contrasted for the "knowledgeable" than for the "non-knowledgeable" consumers. For the latter, the trends were the same but the results were not significant. On first analysis, these results confirm Keller's thesis (1998) which postulates that one of the conditions of success of the region of origin cue on the international market is that the consumer should be aware and informed about the region.

<sup>5</sup> Domestic quality is opposed in this context to the « commercial quality », where only intrinsic and extrinsic attributes are valued by the consumer, independently from the production process.

For non-knowledgeable consumers, the absence of a regional name could also have an unfavourable effect even if this effect does not emerge as significant. Thus, even if the consumers are not aware of the region's production potential, they perceive more favourably the display of extra information (region of origin) when they are in a comparative choice situation with products that mention an unknown region and products with no mention of a region of origin. So these results would tend to support Aaker's position (1991) when he suggests that the promotion of regional products could be successful in foreign markets, in the same way as a brand strategy and therefore it is not a precondition that the foreign consumer has to be familiar with the region in order for the cue to be effective. Generally speaking, however, everything happens as though the aware or non-aware customer spontaneously credits a smaller geographical area with a higher level of performance in terms of know-how or *terroir*, whatever its reputation.

### CONTRIBUTIONS, LIMITATIONS AND LINES FOR FURTHER RESEARCH

The research sheds some light on the distinction between the notions of country of origin and region of origin. From this point of view, our results confirm that the components of the country image and those of the region image may overlap but only partially.

Whereas the "country" image refers to general resources and a country's industrial expertise (production conditions and quality control), the "region" image is more specific; it is characterised in particular by the three dimensions of "processing know-how", "traditions" and "olive variety".

These results provide empirical validation for an important research trend currently underway in socio-economics and ethnology on the underlying dimensions of "domestic quality" linked with particular "region-product" associations.

They contribute to recent research in marketing suggesting that the image of a region of production derives both from its natural conditions and also the local production know-how, and they suggest that there are some invariants in the dimensions of the image of a region when this region is used as a quality cue for food products: the raw material, the local agronomic conditions, and human know-how. Of course, the relative importance of each dimension may differ according to the region and the product.

Some of our hypotheses are only partially validated. To some extent, this may be due to the proxies we used to operationalize our variables (variety, soil and climate, human know-how). These may not cover the subtle items that define a region considered as a "terroir", and therefore fail to measure the complete dimensions of a region.

Our second contribution is to shed light on the function of region of origin used as a brand, namely whether knowledge of the name of the region on the part of the consumer is a precondition to his experiencing the full impact of the brand's effects. Our results clearly confirm the positive link that exists between the reputation of the region and consumer preference, and they also show that the more expert the consumers, the more value they place on the region being mentioned. Obviously, these consumers use the reputation of a known region in the same way they would consider brand reputation.

However, our results also show that consumers to whom the name of a region means nothing still place more value on the fact that the name of a little known region is mentioned than on the absence of a name altogether. We may hypothesise that this positive effect is not necessarily associated with representations of regions or with emotional ties between the consumer and a given region, but perhaps with the simple fact that the region provides extra and more specific information. It would therefore be interesting to explore the factors that account for this positive effect.

These findings have to be considered in the light of some of the study's limitations. What would the outcome be, for example, with consumers who are not familiar at all with olive oil or with the notion of *terroir* ? Geographic and cultural distance could modify these results. We believe that it would be

interesting in future research to explore the perceptions of non-European consumers (for example, Canadian or Japanese consumers).

We can not escape criticism about the external validity of the results which affects research on "made in", nor the contradictions in the results which are attributable to the different contexts of the study and in particular to the product categories tested. Our results seem to be consistent with those of the literature on region of origin, but this research is still scarce. For example, can the dimensions of the region of origin image in the case of olive oil be extended to the entire category of food products ? It would be useful to carry out similar experiments on other food products.

From a managerial point of view, there are in our opinion three recommendations that can be drawn from these results.

The first is that a marketing policy based on a region of origin would be well advised to create and promote a reputation based on the components of images on which the quality of the product is founded, i.e. natural resources (soils, micro-climates, locally adapted varieties) rather than on the more generic components which make up the country image (industrial expertise, quality control, etc.). In other words, Tunisian marketers would be well advised to promote specific regions for olive oil rather than just focus on Tunisia.

The second recommendation is that such a policy can be effective even if initially the consumers do not know the region. In other words, the process to favour does not follow necessarily a logical route in the style of: "first to make known the country, then the regions, then possibly zones even more specified", but it could be efficient to consider these components in a different order.

The third recommendation is that if the products are to be marketed to knowledgeable consumers, the mention of a known region will be very highly appreciated, whereas the mention of a little known region will provide little benefit and may even be detrimental.

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Table n°1: Characteristics of participants

Variables	Sample
<b>Number of participants</b>	123
<b>Sex</b>	Men 41 Women 82
<b>Age</b>	From 18 to 44 years 49 45 years and more 74
<b>Education level</b>	Secondary 56 University 67
<b>Income level</b>	Low and average* 85 High* 38
<b>Consumption level</b>	Big consumers** 18 Average consumers** 62 Small consumers** 43
<b>Usual purchase price of olive oil (1Liter)</b>	
Less than 6.1 TD/ 6 €	8
From 6.1 to 6.8 TD/ From 6 to 8 €	46
From 6.9 to 7.9 TD/ From 8.7 to 13.5€	53
8 TD and more /From 13.6 to 19.4 €	13
19.5€ and more	3

\* Low and average income: < 3693 Euros \* High income: ≥ 3693 Euros  
 \*\* Big consumers: 1 liter and more/week (Krystallis et Ness, 2005)  
 \*\* Average consumers: 1-2 liters/month  
 \*\* Small consumers: 1-2 liters/quarter or more rarely

Table n°2: Percentages of affirmations about the association country/region-image dimensions

Image dimensions	Country	Known region	Little known region
Olive variety	62.6	81.1	11.4
Soils	74.0	72.7	36.6
Climatic conditions	91.9	90.8	52.5
Diversity of qualities	83.6	77.0	16.3
Transformation know-how	71.4	81.8	11.5
Production condition and quality control	89.3	77.9	25.2
Olive-related traditions	66.4	94.3	13.8

Table n°3: McNemar test

	Country-variety & region-variety	Country-soils & region-soils	Country-climate & region-climate	Country-diversity & region-diversity	Country-Know how & region-Know how	Country-quality control & region-quality control	Country-tradition & region-tradition
N	122	121	120	121	118	121	122
Chi-Square <sup>a</sup>	13.081	.025		1.531		6.036	30.250
Asymp.Sig.	.000	.874		.216		.014	.000
Exact Sig. (2-tailed)			1.000 <sup>b</sup>		.015 <sup>b</sup>		

<sup>a</sup> Continuity Corrected

<sup>b</sup> Binomial distribution used

Table n°4: Synthesis of the H1 validation

Sub-hypothesis linked to the three tested image dimensions	Variables linked to image dimensions	H0 accepted/rejected (α=0.05)
H1.1 (Olive variety)	Olive variety	Rejected
H1.2 (Natural conditions)	Soils Climatic conditions	Accepted Accepted
H1.3 (Human factor)	Diversity of olive oils qualities	Accepted
	Transformation know-how	Rejected
	Production condition and quality control	Rejected
	Olive-related traditions	Rejected

Table n°5: Country/region-olive variety association

Country-olive variety	Known region-olive variety	
	1 (yes)	2 (no)
1 (yes)	69	7
2 (no)	30	16

Table n°6: Country/region-transformation know how Association

Country-know how	Known region-know how	
	1 (yes)	2 (no)
1 (yes)	78	6
2 (no)	19	15

Table n°7: Country/region-production condition and quality control association

Country-production condition and quality control	Known region-production condition and quality control	
	1 (yes)	2 (no)
1 (yes)	87	21
2 (no)	7	6

Table n°8: Country/region-traditions association

Country-olive related traditions	Known region-olive related traditions	
	1 (yes)	2 (no)
1 (yes)	80	1
2 (no)	35	6

Table n°9: List of known and little known regions for producing olive oil

Country	Known region	Little known region
Spain	Andalusia	Bajo Aragon
Italy	Tuscany	Calabre
France	Nyons	Nîmes
Tunisia	Sfax	Nabeul
Marocco	Meknès	Azilal

Table n°10: Effects and t Ratio of the region of origin attribute levels

Region of origin attribute level	Effect	t Ratio
Known region	+0.1523	+ 3.42
Little known region	+0.0282	+0.61
Absence of the region name	-0.1805	-3.80

Table n°11: Distinction between the known and the little known regions from consumers (t-test paired samples)

	t	D.F	Sig. (two-tailed test)
Pair 1 Andalusia (KR) - Bajo Aragon (LKR)	8,205	1 21	,000
Pair 2 Calabre (LKR) - Tuscany (KR)	-4,776	1 22	,000
Pair 3 Azilal (LKR) - Meknès (KR)	-2,887	1 21	,005
Pair 4 Nyons (KR) - Nîmes (LKR)	-,118	1 18	,906
Pair 5 Sfax (KR) - Nabeul (LKR)	-,883	1 18	,379

KR : Known Region according to experts ; LKR : Little Known Region according to experts

Table 12: Importance of "country of origin", "region of origin" and "price" attributes for the two groups of respondents (experts and non-experts)

Attributes		Country of origin	Region of origin	Price
Importance percentage	Expert group	61.79	16.84	21.38
	Non-expert group	50.36	7.01	42.63

Figure n°1: Model corresponding to H1

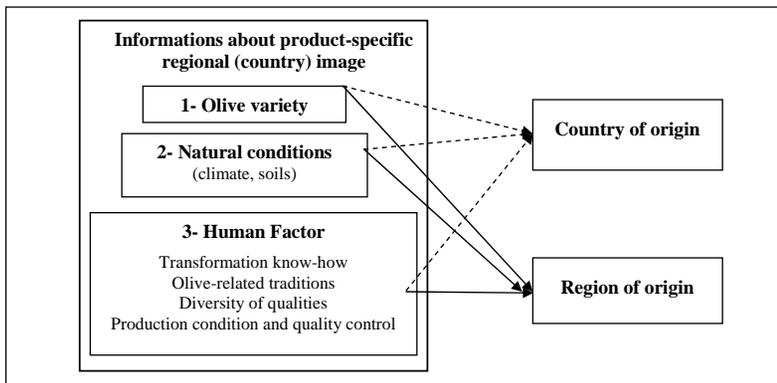


Figure n°2: Country of origin-quality attributes associations

Concerning the olive oil, the country "France" can refer to certain elements for you. Check please for each of the following proposals the answer which represents your own opinions. There are not "good" or "wrong" answers.

	Answer	
The word "France" makes me think about certain olive varieties	Yes <input type="checkbox"/>	No <input type="checkbox"/>
The word "France" makes me think about certain types de soils	Yes <input type="checkbox"/>	No <input type="checkbox"/>
The word "France" makes me think about certain climatic conditions	Yes <input type="checkbox"/>	No <input type="checkbox"/>
In "France", there is a variety of olive oil qualities	Yes <input type="checkbox"/>	No <input type="checkbox"/>
The word "France" makes me think about certain transformation know-how	Yes <input type="checkbox"/>	No <input type="checkbox"/>
The word "France" makes me think rather the production condition and quality control	Yes <input type="checkbox"/>	No <input type="checkbox"/>
The word "France" makes me think about certain olive-related traditions	Yes <input type="checkbox"/>	No <input type="checkbox"/>

Figure n°3: Example of a task choice

You are in front of an olive oil shelf in a supermarket. Which of these three bottles do you choose? The bottles each are containing 0.5 litre of extra virgin olive oil.

Spain	France	Tunisia	
Region Bajo Aragon	.	Region Sfax	I will not buy any one
9.55 €	3.40 €	6.95 €	
1	2	3	4

Please circle the number of the bottle you've chosen (or the option "I will not buy any one").

Figure n°4: Utility values of the "region of origin" attribute levels according to the degree of knowledge of the producing reputation of the regions

