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***Consumer perception of Portuguese quality wine and the region-of-origin effect***

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**Abstract**

Region's specificities such as history, geography and culture can be mobilised to qualify regions' products and confer a competitive advantage to certain products with origin in that region. The returns of a region's resources depend upon the ability of local firms to appropriate the rents earned and whether consumers value the characteristics of the region that are associated with the product, being disposed to pay a price premium.

In a previous research, using a hedonic price function, which related the price of Portuguese regional wines to its various attributes, we found empirical support to the idea that region of origin matters to consumers, that is, the study showed that some regions of origin had a significant impact on products price. The approach taken was a supply side one, which means we collected prices from different Portuguese retail chains. In this empirical research, we intend to test the same issue questioning directly a certain kind of consumers: those who buy wine to sell it in their small retail shops, restaurants and bars (*cafés*). Besides the regional designation of origin, other product attributes to be tested are colour, age and special attributes, which all have shown positive effects on price in the previous research.

## Introduction

European Union has developed a new rural development policy in the context of Common Agricultural Policy reform. This reform has led both the public and the private sectors to give more heed to regional products, feeling differentiation and quality improvement to be the best responses to the cost advantage loss due to the drop in agricultural price support. Regional products are supported by European laws (reg. 2081/92 and 2082/92), which give producers the opportunity to freely found a collective brand and a production reference standard, enforced by the national governments through a system of public guarantees on private control activities. To qualify for the use of designation of origin label, agricultural regions must have historical tradition and geographic, cultural and social specificity (SODANO, 2001).

These region's specificities can be mobilised to qualify region's products. Given this, we can expect producers (farmers, artisans, industrial entrepreneurs) and distributors to use the territorial references to increase the value of their products and sustain differentiation towards their competitors (SALOLAINEN, 1993; KUZNESOF *et al.*, 1997; HENCHION and McINTYRE, 2000; COQUART and POUZENC, 2000; SODANO, 2001).

In the wine industry, the specific capabilities require, on the demand side, social recognition of its usefulness and, on the supply side, a local collective dynamic of appropriation that qualifies the product, be for the modification of an intrinsic characteristic (as taste) or extrinsic (as packaging, labelling information or brand name) [LOCKSHIN and RHODUS, 1993; JENNINGS and WOOD, 1994; GIL and SANCHEZ, 1997; ANGULO *et al.*, 2000; ORTH and FIRBASOVÁ, 2003].

The returns of a region's resources and capabilities depend upon the recognition by the market of the product identity (specificity), of the sustainability of the competitive advantage acquired (protection of region or product origin) and of the ability of local firms to appropriate the rents earned. The mechanism of rent appropriation corresponds to the internalisation, on the part of local producers, of a group of external effects embedded in the territory (reputation, image). However, the rent is only reached when the producer is willing to reflect the effects of a product's region of origin on price, and when the consumer values those characteristics of the region that are associated with the product,

being disposed to pay a price premium (LOCKSHIN and RHODUS, 1993; SODANO, 2001; SKURAS and VAKROU, 2002; ORTH and FIRBASOVÁ, 2003).

Research questions on region of origin effects are important, particularly in the context of lagged and rural regions, as long as they can take profit of opportunities available in some markets. Those economic opportunities are often associated to the fact that, for a few products, information on region of origin seems to lead to higher consumer preferences and a more positive attitude towards goods produced in such territories. This is particularly the case where some kind of “consumers’ ethnocentrism” (ORTH and FIRBASOVÁ, 2003) can be found. This applies also to products with a strong cultural-historical background.

Research into region of origin effects also has significant implications for the decisions to be taken by both business managers and policymakers. Private intervention refers to the marketing strategies that producers’ associations or firms promoting regional products must implement in order to differentiate their products from the rivals and persuade consumers to buy them. Public intervention concerns the preservation of rural heritage, environmental protection, diversification of agricultural activities and increase of the value of regional products.

The motivation for conducting this research is twofold. First, enhance our understanding of the impact of territory information on buyers’ behaviour. Particularly, the extent to which territory information (region of origin) affects wine prices, given a multiplicity of other cues. Second, the empirical evidence might be useful for producers’ investment decisions, retailers purchasing and selling strategies and for the design of wine marketing campaigns according to the knowledge of consumers’ valuation of different product attributes.

In section 1 we present empirical evidence which suggests that buyers might respond to territory cues by paying more for products produced in specific regions. Then, we refer to the research methodology. In section 3, based on a survey, we investigate the perceptions of Portuguese consumers regarding the region of origin and other wine attributes. Based on empirical evidence collected, in section 4 we check the effects of the region of origin and the wine attributes on the price set by the retailer. Finally, we discuss

our findings and suggest some marketing and policy implications that can be drawn from the study.

## 1. Literature review

Researchers from international marketing have long made clear that country of origin has a considerable influence on the evaluation of a product (BILKEY and NES, 1982; LIEFELD and WALL, 1993; SAMIEE, 1994; ELLIOTT and CAMERON, 1994). However, few empirical researches have focused on agricultural and food products (ORTH and FIRBASOVÁ, 2003) and even less have addressed the effect of region of origin information on consumers' evaluation of regional products.

In the case of the wine, the first reference we have of an empirical study that included the region of origin as an explanatory variable was the one of OCZKOWSKI (1994), dealing with the Australian red wine production. Others, just a few, too, came after 1998, included the one we made, dated from 2003, referring to the Portuguese table wine case (FREITAS SANTOS and CADIMA RIBEIRO, 2003). An up-to-date review of the literature about hedonic wine studies can be found in VIANA (2006).

The study of region of origin effects seeks to understand how consumers perceive products emanating from a particular region. From an information theoretical perspective, products may be conceived as consisting of an array of information cues. Each cue provides customers with a basis for evaluating the product. The study of informational cues has generated research on the impact of multiple attributes on product's price, such as brand (VRANESEVIC and STANCEC, 2003), region of origin and label (ANGULO *et al.*, 2000; COQUART and POUZENC, 2000; SKURAS and VAKROU, 2002; STEINER, 2002), quality signals and regional reputation (OCZKOWSKI, 1994; COMBRIS *et al.*, 1997; STEINER, 2002; SCHAMEL, 2003) and design (JENNINGS and WOOD, 1994; KAWAMURA, 1999). The informational cue that merits our particular interest here is the designation of origin of a product, as regulated by the European Union legislation (Reg. 2081/92).

In what refers the empirical approach undertaken, following a review of empirical evidence and the results we got in the 2003 research (FREITAS SANTOS and CADIMA RIBEIRO, 2003), we expect a positive relationship between consumers' product evaluation

and the colour of wine (red or white). This working hypothesis comes from the fact that previous empirical research found that Portuguese consumers evaluate more positively the red than the white wine, due to a better taste of the former and higher perception of quality (NASCIMENTO, 2001). Also health considerations could explain the preference, as recent medical research, often cited by the press, states that one glass of red wine is effective in preventing heart diseases (BOUCHERON, 1995; GARBER *et al.*, 2000).

Further more, a positive relationship between consumers' product evaluation and age (number of years) of the product is expected. This means that, usually, consumers evaluate more positively the older wines than the younger ones, because it is generally known that the quality of wine improves with age (KEOWN and CASEY, 1995; GIL and SANCHEZ, 1997; ANGULO *et al.*, 2000; SCHAMEL, 2003).

A positive relationship between consumers' product evaluation and special attributes of the product is, also, expected. This hypothesis as to do with the idea that consumer evaluates more positively the wines that contain special mentions on the label, like "grape variety" or "reserve", than otherwise (KEOWN and CASEY, 1995; ANGULO *et al.*, 2000; STEINER, 2002; SCHAMEL, 2003).

Additionally, we expected that consumers do not value wine based exclusively on their physical characteristics but also on brand, specifically producer's brand rather than retailer's brand. Producer's brand creates a reputation of wine in the consumer's mind which is often associated with quality of region of origin. Both brands and region of origin information are extrinsic cues giving consumers information on expected product performance, also serving to differentiate it from other brands, as well as to help motivate consumers in choosing and purchasing the product, thus making them satisfied and loyal (JOHANSSON and NEBENZAHL, 1986; VRANESEVIC and STANCEC, 2003).

Another hypothesis to be tested regards the label. The general idea to be tested is that the label on wine bottles provides important cues for consumers in a market where product attribute information is imperfect and asymmetric. Even when the region of origin labelling is required, as in wines, it is quite possible to manage the label (letters size, photos and drawings) in order to detach the region. Some labels clearly detach the region of origin in capital letters or symbols, while others emphasize the grape variety or the producer's name. When regions of origin do not possess a positive image on wine firms may not

highlight region of origin as part of their marketing strategy (KEOWN and CASEY, 1995; KAWAMURA, 1999; STEINER, 2002).

The last hypothesis to test is that wines from certain regions with higher reputation may be preferred to those from regions with lower reputation. These preferences are likely to lead to a willingness to pay more for products from regions with a higher reputation on wine, and this should be reflected in higher selling prices (at least in a highly competitive market) [LOCKSHIN and RHODUS, 1993; SALOLAINEN, 1993; KEOWN and CASEY, 1995; GIL and SANCHEZ, 1997; ANGULO *et al.*, 2000; SKURAS and VAKROU, 2002, STEINER, 2002; SCHAMEL, 2003].

A synthesis of the results we got in the 2003 hedonic function study (FREITAS SANTOS and CADIMA RIBEIRO, 2003) is available in table 1.

Briefly, to read table 1 we need to keep in mind that hedonic price function captures the relationship between the observed price and the amount of each characteristic contained in the product, and generally is defined as:

$$P = f(x_1, x_2, \dots, x_k)$$

where  $P$  is the observed price and  $x_1, x_2, \dots, x_k$  are the amount of the characteristics of the good. The partial differential of the hedonic price function, that is  $dP/dx_i$ , shows the shadow price of the characteristic  $x_i$ .

A OLS regression hedonic price function was used.

**Table 1 – Estimated hedonic price functions**

<b>Variables</b>	<b>Dependent variable P</b> Estimate (t-statistic)	<b>Dependent variable LogP</b> Estimate (t-statistic)
Constant	-233,43 (-1,624)	5,633 (55,45)**
Colour	0,174 (4,947)**	0,222 (6,701)**
Age	0,179 (4,986)**	0,167 (4,934)**
Reserve	0,205 (5,867)**	0,25 (7,579)**
Grape	0,301 (8,703)**	0,334 (10,229)**
Brand	0,143 (4,221)**	0,181 (5,657)**
Label	-0,014 (-0,4)	-0,037 (-1,157)
Douro	0,213 (4,886)**	0,223 (5,405)**
Dão	0,095 (2,401)*	0,131 (3,509)**
Bairrada	0,001 (0,018)	0,014 (0,376)
Alentejo	0,29 (6,504)**	0,303 (7,214)**
Ribatejo	-0,01 (-0,268)	0,005 (0,136)
Setúbal	0,069 (1,803)	0,062 (1,725)
N	711	711
R <sup>2</sup> Adjust.	0,273	0,35
F statistic	23,14**	33,405**

Note: (\*) and (\*\*) indicates significance at the 5% and 1% level, respectively.

(FREITAS SANTOS and CADIMA RIBEIRO, 2003)

## 2. Methodology

Portugal is known worldwide for its Port wine, produced in the northern part of the country and bottled in the city of Porto. However, other quality wines are produced all over the country. Its importance in the domestic economy is undeniable both in consumption and exports. PORTER (1994), invited by a group of Portuguese firms (public and private) to study the competitive advantages of Portugal, has identified this sector as a cluster and suggested some actions to improve its competitiveness. These actions emphasize “better quality of the grapes, firms long term investment, professional management and quality

certification, selection of target countries (UK and USA), study consumer behaviour, increase of super-premium wines and protect Portuguese brands” (MONITOR GROUP, 2003).

The production of wines in Portugal is organised by designations of origin, geographical indications, regional wines and table wines (Table 2).

**Table 2 – Designations of origin and geographical indications of Portuguese wines**

<b>Designations of origin</b>	<b>Geographical indications</b>
Vinho Verde, Chaves, Valpaços, Planalto Mirandês, Porto e Douro, Távora, Varosa, Lafões, Bairrada, Dão, Beira Interior, Encosta de Aire, Alcobaça, Lourinhã, Óbidos, Alenquer, Arruda, Torres Vedras, Bucelas, Carcavelos, Colares, Ribatejo, Setúbal, Palmela, Alentejo, Lagos, Portimão, Lagoa, Tavira, Madeira, Biscoitos, Pico, Graciosa	Minho, Trás-os-Montes, Beiras, Ribatejano, Estremadura, Alentejano, Terras do Sado, Algarve

Source: Instituto da Vinha e do Vinho, 2001.

The wines produced in regions with designations of origin can use DOC (controlled designation of origin) and VQPRD (quality wine produced in designated region). The wines with geographical indications only can put VQPRD. The regional wines cannot use DOC or VQPRD, because the producers are not willing to fulfil the required regulations, but the place where the wines are produced can be indicated. Table wines do not possess any geographical indication.

The bottles have a label where some information about the wine and the firm is given: brand; region of origin; DOC or VQPRD; category (white or red); year of production; other references (grape variety, reserve, etc.).

Based on the literature reviewed, the authors of this study developed a specific questionnaire with three parts. The first part includes nine questions to define the profile of the sample. In the second part, question 1 listed nine reasons to buy wine and question 2 six



regions of origin of Portuguese wine. In both questions, the task for the respondents was to choose the three main attributes or regions, ranking them by descending order. Part three of the questionnaire included ten questions about the wine bought by the respondent (brand, region of origin, colour, year of harvest, wine type, price, quality signals, special references, quantities bought). The survey was directly conducted and respondents provided the data during February 2007. It took place in a wholesaler (Makro) located at Braga, Portugal. We got 96 useable completed questionnaires. Table 3 shows the profiles of the questionnaire respondents.

Table 3 shows, namely, that: 80,2% of the respondents were males; 60,4% were restaurant owners; 75% visited the wholesaler every week; 60,4% consumed wine regularly; and only 33,3% of the respondents were wine buyers` specialists. From the same table, we can also conclude that: the retailer`s size was small (between 1 and 8); the distance from the wholesaler is half to one hour (77,1%); and the freedom to choose the wine was very limited (59,4% of the respondents bringing a list of what they should buy).

**Table 3 – Profile of the respondents**

<b>Variables</b>	<b>Number</b>	<b>%</b>
<b>Sex</b>		
Male	77	80,2
Female	19	19,8
<b>Retailer format</b>		
Café	19	19,8
Specialised store	2	2,1
Restaurant	59	60,4
Mini-market	9	9,4
Supermarket	2	2,1
Variety store	4	4,2
Hotel	1	1,0
<b>Size of the retailer (number of employees)</b>		
Between 1 and 3	41	42,7
Between 4 and 8	48	50,0
More than 8	7	7,3
<b>Frequency of visit to the wholesaler</b>		
Every month	6	6,3
Every week	72	75,0
Every two weeks	7	7,3
Other	11	11,5
<b>Distance from the wholesaler (in minutes)</b>		
0 to 10	0	0,0
From 31 to 60	74	77,1
More than 60	22	22,9
<b>Consumer of wine</b>		
Yes	58	60,4
No	38	39,6
<b>Wine specialist</b>		
Yes	32	33,3
No	64	66,7
<b>Freedom to choose wine</b>		
Total freedom	23	24,0
Shopping list	57	59,4
Repetition of previous buy	10	10,4
Other	6	6,3
<b>Total</b>	<b>96</b>	<b>100,0</b>

### 3. Wine attributes and the perception of consumers

The current study deals with current Portuguese consumer perceptions of wine, in a real market setting.

According to Table 4, the dominant factor of influence in the acquisition of wine is the region of origin. This result reinforces the one we got from the 2003 study (FREITAS SANTOS and CADIMA RIBEIRO, 2003). According to it wines from regions of Douro, Dão and Alentejo would command higher prices than wines from other regions. Anyway, we should keep in mind, the different nature of the methodological approach and of the sample taken.

Learning from this results, considering its strategic implication, if the region of origin has a positive image/reputation on the wine market, producers should give more visibility to it on the label and use that image in their marketing programs. A complementary approach to the market is the identification of consumer groups (market niches) that are willing to spend a higher share of their budget to buy products more able to attend their particular needs.

**Table 4 – Dominant factors of influence in buying wine**

Attributes	Dominant factor of influence		
	1st Important	2nd important	3rd important
Region of origin	43	30	11
Brand	29	37	14
Grape	1	1	0
Type	11	12	36
Price	12	6	14
Colour	0	3	4
Age	0	0	1
No indication	0	7	16
Total	96	96	96

On the contrary, producers from regions with less reputation on wine should compete on brand equity and marketing actions (market research, advertising, promotion, public relations), in order to well establish the uniqueness and the historic background of the goods they are offering to the market. Using other words, the general idea is that producers, rather than competing for a price, should propose to consumers a concept supported on a strong ethos of making quality wine.

Table 5 reinforces the conclusion that region of origin is the dominant factor of decision in wine acquisition, even when buyers have total freedom to choose.

**Table 5 – Dominant factor of influence and freedom to choose**

Freedom to choose	Total	1st dominant factor of influence				
		Region of origin	Brand	Grape	Type	Price
Total freedom	23	13	5	0	1	4
Shopping list	57	25	16	1	7	8
Repetition of previous acquisition	10	3	4	0	3	0
Other	6	2	4	0	0	0
Total	96	43	29	1	11	12

Product intrinsic characteristics like colour, age, special references and grape, all have shown not having relevant influence in the decision of the wine consumer, in this case.

There is mixed empirical evidence about the influence of colour in wine buyers' behaviour. ORTH and KRSKA (2002) study, about the Czech Republic, found that colour is an important wine attribute to buyers, while STEINER (2002) clearly identified red wine as having price premiums in England and Scotland. On the contrary, other studies (NERLOVE, 1995; SCHAMEL and ANDERSON, 2003) concluded that red wines were sold at a discount against white ones in Sweden and Australia/New Zealand, respectively. Given the diversity of countries, these results reinforce the idea of wine as a cultural product, strongly embedded in the history and culture of a "terroir".

Although with no statistical significance, our previous research (FREITAS SANTOS and CADIMA RIBEIRO, 2003) has shown that Portuguese consumers seem to associate red wine with tradition, better quality and typical gastronomy. Of course, also health reasons spread by the media lately could help to explain the results we got.

Additionally, table 5 results seems to tell that characteristics and quality of the wine (appearance, taste, flavour), which improve with age, have no major influence on the buying decision. May be, because it represents to consumers a saving in opportunity costs of storage, while, for producer, the longer they store the wine the greater it is its contribution towards the cost of production. The same way, the statement that wines with special references (marketing indications, such as reserve) have a positive impact on consumer decision is not supported by the data.

This empirical evidence is contrary to the one we got in previously (FREITAS SANTOS and CADIMA RIBEIRO, 2003) for product intrinsic characteristics like age (more years) and special attributes (as reserve), both having positive effects on price. The same applies to the indication of the name of the grapes on the label that, once again, in this survey, has shown not to influence consumers' decision.

Regarding this issue, a study by STEINER (2002) pointed out the possible interaction between grape varieties and region of origin, saying that “outstanding grape varieties are shown to have a strongly positive or negative regional impact on price just as outstanding regions have a similar grape varietal impact”. On the contrary, ANGULO *et al.* (2000) found that grape variety did not influence wine prices in the Spanish market. By his turn, SCHAMEL (2003) reported mixed effects (positive and negative) of grape varieties on wine prices.

**Table 6 – Dominant factor of influence and knowledge about wine**

	Total	1st dominant factor of influence				
		Region of origin	Brand	Grape	Type	Price
Wine specialist?						
Yes	32	18	9	0	3	2
No	64	25	20	1	8	10
Consumer of wine?						
Yes	58	31	17	0	4	6
No	38	12	12	1	7	6

Also in Table 6, we can see that, both, wine specialists and consumers use region of origin as a strong clue to their decision of purchasing or not a certain wine, while the non specialist consumer deposits more interest in the brand. In this case, the brand seems to increase the perceived quality of the wine and the probability of its acquisition. In this regard, producer's brand seems to be able of creating consumer loyalty and, in a certain degree, to defend the firm from the threat of competition.

#### **4. Region of origin and the perception of consumers**

Table 7 shows that wines from the regions of Alentejo, Douro and Verde are the most preferred by the Portuguese consumer. Regions of Beiras, Bairrada, and Ribatejo are less preferred. The results obtain through this survey are in line with those of the 2003 research (FREITAS SANTOS and CADIMA RIBEIRO, 2003), as already mentioned. The differences to underline have to do in the inclusion of Verde, which wine region we didn't included in the first study due to not being an ordinary Portuguese table wine, and with Dão, not valued as hypothesized by the survey respondents, may be because it doesn't presents for them as a wine region clearly differentiated from the one of Douro. Anyway, to better understand the results we got in this last empirical research, we should keep in mind that the respondents were people living in the Verde wine region itself.

As mentioned before, these results offer some support to the proposition that, where it is not possible to distinguish objectively between products on the basis of intrinsic

quality, consumers will resort to the use of region of origin cue as a surrogate quality index. Thus, some region's physical resources (such as land and climate) and tradition (historic and cultural background) can affect buyers perceptions towards wines produced in a given region, or, at least, can affect the perception of some segments of potential consumers.

**Table 7 – Most preferred regions of origin**

Region of origin	Most preferred regions		
	1st preferred region	2nd preferred region	3rd preferred region
Douro	21	37	30
Dão	2	4	20
Alentejo	55	34	5
Ribatejo	1	0	0
Verde	17	18	22
Beiras	0	1	0
Bairrada	0	0	3
Not indicated	0	2	16
Total	96	96	96

Another explanation concerns the image of the wine. If wines from regions of Alentejo and Verde have a positive image, then the use of that wine makes the consumer feel better about him or herself. It may also be the case that the product has the image that the consumer wants to project to other people. Besides, it can happen that specialized regional products are fashionable. In this case, that is, if a person is concerned with what other people think, then that person may care about the region of origin in order to impress others (LOUREIRO and McCLUSKEY, 2000).

Lastly, it is interesting to see that, when the buyer has total freedom to choose the wine, Alentejo is the most preferred region, but, if it brings shopping lists, Douro and Verde also assume important places (Table 8) in the revealed buyers preferences.

**Table 8 – Region of origin and freedom to choose**

Freedom to choose	Total	1st preferred region					
		Douro	Dão	Alentejo	Ribatejo	Verde	Beiras
Total freedom		7	0	12	0	4	0
Shopping list		11	2	33	1	10	0
Repetition of previous acquisition		2	0	6	0	2	0
Other		1	0	4	0	0	1
Total	96	21	2	55	1	16	1

Finally, both consumers and wine specialists value Alentejo region, but, from the point of view of wine consumers, Douro and Verde are regions with higher reputation (Table 9).

**Table 9 – Region of origin and wine knowledge/consumption of wine**

	Total	1st preferred region					
		Douro	Dão	Alentejo	Ribatejo	Verde	Beiras
Wine specialist?							
Yes	32	10	1	17	0	4	0
No	64	11	1	38	1	12	1
Consumer of wine?							
Yes	58	15	2	33	0	8	0
No	38	6	0	22	1	8	1

## Conclusions

The main motivation for conducting this research was to bring some more light on the impact of territory information on buyers' behaviour; in this case, Portuguese wine consumers.



Based on empirical evidence collected through a questionnaire directly implemented in a wholesaler, we could conclude that the dominant factor of influence in the acquisition of wine is the region of origin. Product intrinsic characteristics like colour, age, special references and grape, all have shown not having relevant influence in the decision of the wine consumer, in this case. Also noticeable is that, both, wine specialists and consumers use region of origin as a strong clue to their decision of purchasing or not a certain wine, while the non specialist consumer deposits more interest in the brand.

This way, the empirical research undertaken gives support to the hypothesis that the use of territorial references is a promising strategy to increase the market value of products and sustain differentiation towards competitors.

The regions of Alentejo, Douro and Verde have shown to be the most preferred by the Portuguese consumers. The results obtained through this survey are in line with those of a previous research (FREITAS SANTOS and CADIMA RIBEIRO, 2003). The differences to underline have to do with the inclusion of Verde wine region in the questionnaire, which we didn't consider in the first study due to not being an ordinary Portuguese table wine, and with Dão, not valued as hypothesized by the survey respondents. Anyway, to better understand the results we got in this last study, we should keep in mind that respondents were people living in the Verde wine region itself.

The fact just mentioned can be taken as a major limitation of this empirical research, as it doesn't allows us to generalise the results to the country, as a whole. Another limitation comes from the fact that we collected the answers in a single wholesaler. That means that supplier marketing strategy could, at least at certain level, to have influenced costumers' choices.

A last comment we would like to add as to do with the option we took of approaching consumers' preferences through the ones stated by the small retailers. Even if a close relationship between retailers and final consumers exists, we are aware that it is not the same thing.

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