Territory and regional products: an attempt to evaluate the effects of territory information on product price

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The effects of territory information on regional product price

Abstract

Regions are not mere geographical spaces, being also endowed with specific resources that can be mobilized to increase local producer's value. Experimental research on Portuguese wine prices contradicted this idea, since region of origin information highlighted on the label or the brand does not have significant impact on price. Even when compared with other product attributes, region of origin information, as a whole, is generally of low importance. However, other product attributes like colour (red wine), age (more than 3 years) and special attributes (grape or reserve) all have positive effects on price.

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Introduction

The idea of the neutrality of the space has recently become old-fashioned. Ratti (1995, p. 6) proposes the concept of "active space" as being the "outcome of a field of forces where the level of output depends on the capacity to produce a mix of cohesion, innovation and of strategic behaviours in a sistemic-evolutionary context". To Delaplace (1995, p. 4) the team of actors with whom the company maintains a demand (customers, competitors), productive (suppliers) institutional or cultural (political, social and cultural institutions) relationship, constitutes what she calls a "space-relational horizon". Crevoisier (1995, p. 5), defends a notion of territory that includes the physical dimension of the space, and, at the same time, a "framework to explain the socio-economic interactions".

These various notions of territory not only include the space, but also the resources and capabilities which give a competitive advantage to the products with origin in a certain 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, and are willing to pay a price premium.

Section 1 of this paper describes the different types of resources and capabilities that can been found in a region and, on the other hand, explains how these assets can increase the value of regional products. In section 2, we present empirical evidence that suggests that buyers might respond to territory cues by paying more for products produced in specific regions. In section 3 we present the hypotheses underlying the study. In section 4 we refer to the research methodology. In section 5, based on experimental research, we investigate the effects of the region of origin, type of retailer, wine attributes, brand and

label on the price premiums set by retailers in a competitive market. Finally, we discuss our findings and describe the policy implications that can be drawn from the study.

1. Resources and capabilities of a region

Resources are inputs into the economic activity of a territory. But, on their own, few resouces are productive. Economic activity requires the cooperation and coordination of sets of resources. A capability is the capacity for a set of resources to perform some task or activity. Resources are the source of a territory's capabilities, while capabilities are the main source of competitive advantage of the territory.

Insert table 1 here

Some resouces are easy to identify and to evaluate, such as financial resources and physical assets. Others are less visible and difficult to appraise, like human capital (people's skills, knowledge, reasoning and decision-making abilities) or reputation.

In brief, territories are not mere geographical spaces, as they are also endowed with resources and capabilities in varying amounts and value. As a result of this, territories generate specific capabilities that can be mobilized to qualify a region's products. Given this, we can expect producers (farmers, artisans, industrial, distributors) to use the territorial references to increase the value of their products and sustain differentiation towards their competitors.

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 price or brand name).

The returns of a region's resources and capabilities depend upon the sustainability of the competitive advantage and the ability of local firms to appropriate the rents earned. The competitive advantage that benefits products with origin in a specific territory is considered to be a rent, which corresponds to the internalization, on the part of local producers, of a group of external effects embedded in the territory. However, this rent is only reached when the producer is willing to reflect the effects of a product's region of origin in the price and when the consumer values those characteristics of the region that are associated with the product, being disposed to pay a price premium.

Research questions on region of origin effects are important, particularly in the context of undeveloped and less industrialized regions, since information on region of origin in certain products seems to lead to higher consumer preferences and a more positive attitude towards products produced in such regions. Research into region of origin effects also has significant implications for the decisions made by both business managers and government policymakers.

2. Region of origin and the importance of price

Researchers from international marketing have long made clear that country of origin has a considerable influence on the evaluation of a product (SAMIEE, 1994; BILKEY and NES, 1982; ELLIOTT and CAMERON, 1994). However, few empirical

evidence to date has focused on the effect of region of origin information on the evaluation of a regional product.

The study of region of origin effects seeks to understand how consumers perceive products emanating from a particular region. From an information theoretic 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 various cues on perceived risk, on perceived quality, and on purchasing behaviour, and also on how cues are processed by customers (BILKEY and NES, 1982). The informational cue that merits our interest here is the region of origin of a product.

Another research question that has not been previously investigated, also regarding region of origin is the effect on price behaviour in a real market context. Previous studies have tried to quantify the effects of country of origin information on the price premiums (HULLAND, TODIÑO, LECRAW, 1996; JOHANSSON and NEBENZAHL, 1986). Overall, these studies have shown that, potentially, buyers would be willing to pay more for products produced in different countries.

The present study examines the relationship between the region of origin information and price, but from a seller's, rather than a buyer's, perspective. Surveys and experimental research on price preferences have indicated that, potentially, buyers might respond to territory cues by paying premiums for, or expecting discounts on, products produced in different regions. Thus, if we assume a competitive market situation, price should ultimately reflect territory effects if and only if territory information has real value for consumers. In a highly competitive market, where many competitors exist and price information is readily available, sellers (retailers) will be able to charge price differentials

only if they have found that consumers are willing to pay for them. Therefore, by examining seller's pricing behaviours in a highly competitive market, we can infer the likely effects of territory information on buyer behaviour. Market prices reflect actual consumer buying behaviours, providing a clearer view of how consumers ultimately respond to territory information and other information sources (HULLAND, TODIÑO, LECRAW, 1996).

Also addressed in this research is the extent to which territory information affects product pricing, given the multiplicity of other cues that could also influence prices. In this case, region of origin information has not been artificially highlighted, and so its relative importance versus other information sources (brand, years, colour, etc.) can be assessed.

3. Hypotheses

A review of empirical evidence uncovered a wide variety of factors that might influence the extent to which na effect of region of origin can be observed in a particular product. Factors relevant to the current study include the region of origin, retailer's format and product attributes (colour, age), whether or not the product is branded, and whether or not geographical and special indications are shown on the label. The effect of each of these factors on the price premiums set by retailers in a competitive market is investigated.

Hypothesis 1 – Red wines will command higher prices than white wines.

A positive relationship between consumers' product evaluation and the type of the product (red or white) is expected. The consumer evaluates more positively the red wine than the white wine, due to a better taste of the former and higher perception of quality.

Also health reasons could explain the preference, because recent medical research, often cited in the press, states that one glass of red wine is effective in preventing heart diseases.

Hypothesis 2 – Older wines will command higher prices than younger wines.

A positive relationship between consumers' product evaluation and the age (years) of the product is expected. The consumer evaluates more positively the older wines than the younger ones, because it is general knowledge that the quality of wine improves with age.

Hypothesis 3 – The effect of region of origin information on price will be greater for brands with strong emphasis on region than otherwise.

Both brands and region of origin information are extrinsic cues giving consumers information on probable product performance. Regions with a strong reputation on wine should supplement, or even replace, brand information, leading to an increase in the price premiums enjoyed by wines from more attractive regions of origin.

Hypothesis 4 – Retailer's format will moderate the effect of region of origin information on price.

It would be reasonable to expect an inverse relationship between the type of retailer and the effect of region of origin information on price. Different types of retailers (hypermarkets, supermarkets, discount stores) use price policy to gain market share. Thus, some prices may reflect more competitive concerns than the impact of region of origin information.

Hypothesis 5 - The effect of region of origin information on price will be greater for labels that clear detaches the wine's region of origin than otherwise.

An important and accurate source of region of origin information for the majority of brands in the market is the label on the product. Even when the region of origin labelling is required, as in wines, it is quite possible that the local content which is attributable to the

region stated on the label is very small. In this case, regions may not possess a positive image with regard to a product and firms may not highlight region of origin as a part of their marketing strategy.

Hypothesis 6 – Wines with special attributes will command higher prices than products without special attributes.

A positive relationship between consumers' product evaluation and special attributes of the product is expected. The consumer evaluates more positively the wines that contain special mentions on the label, like "reserve" or "great choice", than otherwise.

Hypothesis 7 (a) – Wines from region 1 will command higher prices than wines from region 2 and region 3.

Hypothesis 7 (b) – Wines from region 2 will command higher prices than wines from region 1 and region 3.

Hypothesis 7 (c) – Wines from region 3 will command higher prices than wines from region 1 and region 2.

Wines from certain regions with a high reputation may be preferred to those from regions with a low reputation. These preferences are likely to lead to a willingness to pay more for products from regions with a high reputation on wine, and this should be reflected in higher selling prices (at least in a highly competitive market).

4. Methodology

Portugal is known worldwide for its Portwine, produced in the northern part of the country and bottled in the city of Oporto. However, other quality wines are produced all

over the country. Its importance in the domestic economy is undeniable both in comsumption and exports. PORTER (1994), invited by a group of Portuguese firms (state and private) to study the competitive advantages of Portugal, elected this sector as a cluster and sugested some actions to improve its competitiveness.

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

Insert table 2 here

The wines produced in regions with designations of origin can use DOC (controled 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 have any geographical indication.

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

We collected 711 sales price data [179 (25,2%) white wine and 532 (74,8%) red wine] in three kinds of Portuguese retailers. The retailers positioning and strategy dictated the inclusion in each format. The first type (hypermarket - Continente) accounts for 181 (25%) prices, the second (supermarket - Feira Nova and Carrefour) accounts for 342 (48%) prices, the third (discount store – Pingo Doce) accounts for 188 (27%) prices. These

retailers have different points of sale all over the country (a total of 228 points of sale). All the wine products included in the study contain designation of origin or geographical indication.

The data collected for each product consisted of price, age (years), category (white or red), brand (own, regional, private), retailer where the product was sold, label (highlighting the region or not), special attributes and designation of origin. All the variables other than “Price” and “Age” were binary (0/1). “Type” is coded 1 if wine is red and 0 if it is white. “Brand” is coded 1 if some cue about the region of origin was in the brand’s name and 0 if otherwise. “Retailer” is coded 1 when the intermediary is the hypermarket and 0 otherwise. “Label” is coded 1 if the region of origin is highlighted in the label and 0 otherwise. Special attributes “Spat” is coded 1 if some special attributes were written in the label (reserve, grape) and 0 otherwise. Designation of origin were grouped in three clusters: “Regio1” is coded 1 if regions Douro and Dão is included and 0 otherwise; “Regio2” is coded 1 if regions Alentejo e Ribatejo is included and 0 otherwise; “Regio3” is coded 1 if regions Bairrada, Beiras, Estremadura, Terras do Sado and Algarve is included and 0 otherwise. When we ran the three equations, the variables “Category”, “Age”, “Brand”, “Retailer”, “Label” and “Spat” are constant.

5. Results

The hypotheses were tested using OLS regression analysis. Before testing the hyphoteses we analyzed the likely extent of multicollinearity in the data by analyzing the correlations between the independent variables. Most of the correlations are below 0,34, indicating no major problems of multicollinearity (Table 3).

Insert table 3 here

The regression results can be seen in Table 4. Overall the equations show good fits with adjusted R^2 ranging from 0,18 to 0,21 and very significant values of F ($p<0,001$).

Tables 5 to 11 summarizes the price ratios for different combinations of levels in the same independent variable. The cells in the diagonal of this matrix are all expected to be one, since mean prices are the same. In contrast, the off-diagonal cells reflect the effects of different levels on the independent variable. For example, in Table 5, the cell in row 1, column 2, shows a ratio much higher than 1, because the price consumers are willing to pay for the red wine is substantially more than the price they were willing to pay for the white wine (cell row 2, column 1).

Insert table 4 here

Hypothesis 1 states that red wines will command higher prices than white wines. This hypothesis is supported by the data. Equations (1), (2) and (3) all show that red wines have significant positive effects on price ($p<0,001$). Data on table 5 also confirm this hypothesis, because consumers are willing to pay more for the red wine. Altough red wine is good with first courses and roast meat and white wine goes well with fish dishes, the

consumer seems to evaluate more positively the red wine than the white one. Also, health reasons spread by the media may help to influence consumers' attitude towards red wine.

Insert table 5 here

Hypothesis 2 states that age positively affects the price of wine. This hypothesis is supported by the data. Equations (1), (2) and (3) all show significant positive effects on price ($p<0,001$). Data on table 6 also confirm this hypothesis. The wine with more than 3 years of age is better priced than 2 years (cell row 2, column 3) and 1 year (cell row 1, column 3). The wine with 2 years of age has a better price than the one with only 1 year (cell row 1, column 2), but a worse price regarding the wine with more than 3 years (cell row 3, column 2). This intrinsic attribute (age) has a clear impact on the characteristics and quality of the wine (appearance, taste, flavour) and so in its price.

Insert table 6 here

Hypothesis 3 states that brands with strong emphasis on region of origin will command higher prices. This hypothesis is not supported by the data. Equations (1), (2) and (3) show a positive, but insignificant coefficient for brands with strong emphasis on region of origin. However, data reported on table 7 suggest that consumers were willing to pay substantially less for private brand than for ROO brand (0,57) or producer brand (0,55). Consequently, the consumer evaluates more favourable the wines with producer brand, since it carries the assurance of quality and serves as a warranty. A brand also permits the

producer to tell the market about the product and it helps purchasers to obtain the quality they want. On the other hand, the simple indication of a region of origin is not enough to become competitive, since all the wines can use it in a more or less detached way. To become more competitive, the producer relies on his own brand, thus expecting to differentiate it from his rivals.

Insert table 7 here

Hypothesis 4 states that type of retailer negatively affects region of origin information on price. This hypothesis is not supported by the data. Equations (1), (2) and (3) show a negative, but insignificant coefficient for hypermarket. Using data reported on table 8, we can infer that intermediaries have only a slightly impact on price. However, the hypermarket is the cheapest retailer (0,95 of the mean price for supermarket and 0,91 for discount store) and the discount store the most expensive (1,09 for hypermarket and 1,03 for supermarket).

Insert table 8 here

Hypothesis 5 states that labels that clearly point to the region of origin will command higher prices. This hypothesis is not supported by the data. Equation (1) shows that the coefficient for label which highlights region of origin is negative and significant ($p<0,05$), which is contrary to the expected sign. Data on table 9 (column one, row two and

three) show the ROOH/ROONH and ROOH/ROODS ratio values lower than 1, suggesting that region of origin does not give a substantial price premium. It seems that other information cues that do not point out the territory could be more profitable than region of origin.

Insert table 9 here

Hypothesis 6 states that wines with special attributes will command higher prices. This hypothesis is supported by the data. Equations (1), (2) and (3) show significant positive effects of special attributes on price ($p<0,001$). Data on table 10 also confirm this hypothesis. The None/Reserve and None/Grape (column three, row one and two) ratio values are lower than 1, suggesting that grape names (such as Cabernet Sauvignon) or marketing indications (such as reserve) have a positive impact on price.

Insert table 10 here

Hypothesis 7 (a) states that wines from region 1 will command higher prices than wines from region 2 and 3. This hypothesis is supported by the data (Table 11). However, this effect is more significant on region 3 than in region 2 (column one, row three and two). Equation (1) corroborates the positive effect of region 1 on price ($p<0,05$). Hypothesis 7 (b) states that wines from region 2 will command higher prices than wines from region 1 and 3. This hypothesis is only partially supported by the data. The Regio2/Regio3 ratio value is clearly higher than one (1,26), indicating a clear advantage to region 2. On the contrary, the

Regio2/Regio1 ratio value gives advantage to region 1. Again, equation (2) shows positive effects of region 2 on price ($p<0,05$).). Hypothesis 7 (c) states that wines from region 3 will command higher prices than wines from region 1 and 2. This hypothesis is not supported by the data. The Regio3/Regio1 and Regio3/Regio2 ratio values were lower than 1, indicating that wines from region 3 will have lower prices than regions 2 and 3. The negative sign in equation (3) reinforces this assumption.

Insert table 11 here

These results offer some support for the proposition that, where it is not possible to distinguish objectively between products on the the basis of intrinsic quality, consumers will resort to the use of the region of origin cue as a surrogate quality index. The relationships between region of origin, perceived product quality, and willingness to pay a price premium were supported by the data. Wines from region 1 (Douro and Dão) and region 2 (Alentejo and Ribatejo) are expected to have price premiums, while wines from region 3 (Bairrada, Beiras, Estremadura, Terras do Sado and Algarve) are expected to have discounts. Some region's physical resources (such as land and climate) and a positive image can affect buyers' perceptions towards wines produced in a given region for at least some segments of potential markets.

Conclusions

The current study focused on actual pricing behaviour of one product category of wine in a real market setting (four Portuguese retailers with stores all over the country). The study demonstrated that region of origin information highlighted on the label does not have a positive and significant impact on the prices of wines. Furthermore, when a brand has a strong territory appeal, the impact on price is positive but not significant. However, if we compared price ratio values of ROO brand and private brand, the advantage clearly goes to the former. Thus, brand reputation seems important to compete in the wine market, since all the producers in one region can use the same designation. Familiarity with brands of different regional origins could also affect consumers evaluations leading to less price sensibility.

Other product attributes like colour (red wine), age (more than 3 years) and special attributes (name of the grape or reserve) all have positive effects on price. Clearly, the indication of foreign grapes, very often with less emphasis on the region of origin, has a strong impact on price. Consequently, it seems that a long term investment for wine producers is the introduction of new grapes, in particular the most preferred ones.

This study also shows that, when compared with other product attributes, region of origin information, as a whole, is generally of low importance. Nevertheless, wines from certain regions of origin are better priced than others and have a significant impact on prices consumers appear to be willing to pay in a real market context. Therefore, if the region of origin has a positive image/reputation on the wine market, producers from that region should give more visibility to it on the label and use that image in their marketing programs.

The producers from regions with less reputation on wine should compete on brand equity and marketing attributes (such as age, reserve, special harvest). In the long term, introduction of new grapes could moderate the effect of region of origin. Cooperation between producers or public support is needed to promote the region of origin and change the attitude of consumers.

Further research on this subject should consider the aggregation of other regional product types (such as cheese, honey, olive oil) and other product categories (only wine and one category of it was studied), since it is known, from the literature on country of origin, that effects and their sizes vary according to product and product category (ELLIOTT and CAMERON, 1994).

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Tables

Table 1 – Region's resources and capabilities

Resources	
Type	**Main characteristics**
Financial	Region's borrowing capacity, taxes, subsidies, state financial tranfers
Physical	Climate, land, infrastructures, hospitals, schools
Human	The training, expertise, adaptability and commitment of labour
Technological	Resources for innovation, universities, research units, scientifc parks
Reputation	Region's image (domestic and international) Reputation of the local public institutions from investors, firms, entrepreneurs, banks
Capabilities	
Type	**Main characteristics**
Mix of financial, physical, human, technological resources and reputation	Ability to develop and communicate the region's image Favourable industrial atmosphere Capability in basic research

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

Designations of origin	**Geographical indications**
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.

Table 3 - Pearson Correlation Matrix

	Category	Age	Brand	Retailer	Label	Spat	Regio1	Regio2	Regio3
Price	0,317[a]	0,241[a]	0,003	-0,038	-0,044	0,217[a]	0,116[a]	0,048	-0,166[a]
Category		0,338[a]	-0,032	0,012	0,004	0,182[a]	0,125[a]	-0,041	-0,086[b]
Age			-0,104[a]	0,062	0,076[b]	0,286[a]	0,056	-0,178[a]	0,118[a]
Brand				-0,099[a]	0,124[a]	-0,002	-0,018	0,12[a]	-0,098[a]
Retailer					-0,045	-0,098[a]	-0,006	-0,04	0,04
Label						0,123[a]	0,031	-0,122[a]	0,091[b]
Spat							0,004	-0,068	0,066
Regio1								-0,487[a]	-0,514[a]
Regio2									-0,495[a]

Notes: N = 711, except age N = 709. ([a]) Correlation is significant at the 0,01 level (2-tailed); ([b]) Correlation is significant at the 0,05 level (2-tailed).

Table 4 – OLS Regression Analysis Results

Variable	Standardized beta	t-value	Significance
Constant (Equation 1)	72,395	6,895	<0,001
Constant (Equation 2)	76,208	6,131	<0,001
Constant (Equation 3)	72,909	8,784	<0,001
Category (Equation 1)	0,213	5,789	<0,001
Category (Equation 2)	0,221	6,057	<0,001
Category (Equation 3)	0,197	5,414	<0,001
Age (Equation 1)	0,136	3,725	<0,001
Age (Equation 2)	0,151	4,079	<0,001
Age (Equation 3)	0,162	4,455	<0,001
Brand (Equation 1)	0,055	1,594	n.s.
Brand (Equation 2)	0,044	1,259	n.s
Brand (Equation 3)	0,038	1,097	n.s.
Retailer (Equation 1)	-0,025	-0,736	n.s.
Retailer (Equation 2)	-0,024	-0,705	n.s.
Retailer (Equation 3)	-0,021	-0,618	n.s.
Label (Equation 1)	-0,077	-2,242	<0,05
Label (Equation 2)	-0,064	-1,835	n.s.
Label (Equation 3)	-0,058	-1,709	n.s.
Spat (Equation 1)	0,257	7,33	<0,001
Spat (Equation 2)	0,257	7,348	<0,001
Spat (Equation 3)	0,266	7,681	<0,001
Regio1 (Equation 1)	0,085	2,491	<0,05
Regio2 (Equation 2)	0,085	2,443	<0,05
Regio3 (Equation 3)	-0,176	-5,122	<0,001

Notes: Equation 1: R^2 Adjust.= 0,188; F = 24,402 (<0,001). Equation 2: R^2 Adjust. = 0,188; F = 24,36 (<0,001). Equation 3: R^2 Adjust. = 0,214; F = 27,929 (<0,001).

Table 5 – Average price ratio, by category

Numerator Denominator	White Wine	Red Wine	N	Mean	Standard Deviation
White wine	1,00	1,87	179	710,3	372,5
Red wine	0,53	1,00	532	1334,2	913,6

Table 6 – Average price ratio, by age

Numerator Denominator	1 Year	2 Years	>3 Years	N	Mean	Standard Deviation
1 Year	1,00	1,32	1,64	238	903,37	572,22
2 Years	0,75	1,00	1,23	276	1200,03	905,14
> 3 Years	0,60	0,80	1,00	195	1487,16	960,86

Table 7 – Average price ratio, by brand

Numerator Denominator	ROO Brand	Own Brand	Private Brand	N	Mean	Standard Deviation
ROO Brand	1,00	1,03	0,57	147	1182,3	955,8
Own Brand	0,96	1,00	0,55	516	1221,8	843,7
Private Brand	1,73	1,79	1,00	48	680,5	390,5

Table 8 – Average price ratio, by retailer

Numerator Denominator	Hyper	Super	Discount Store	N	Mean	Standard Deviation
Hyper	1,00	1,05	1,09	181	1121,9	870,2
Super	0,95	1,00	1,03	342	1179,3	839,7
Discount Store	0,91	0,96	1,00	188	1226,1	872,3

Table 9 – Average price ratio, by label

Numerator Denominator	ROOH	ROONH	ROODS	N	Mean	Standard Deviation
ROOH	1,00	1,07	1,15	177	1112,2	854,9
ROONH	0,93	1,00	1,08	496	1191,6	863,8
ROODS	0,86	0,92	1,00	38	1289,7	748,6

Note: ROO – Region Of Origin; ROOH – Region Of Origin Highlighted; ROONH – Region Of Origin Not Highlighted; ROODS – Region Of Origin Difficult to See.

Table 10 – Average price ratio, by special attributes

Numerator Denominator	Reserve	Grape	None	N	Mean	Standard Deviation
Reserve	1,00	0,99	0,63	151	1533,7	893,5
Grape	1,00	1,00	0,63	116	1531,7	934,4
None	1,58	1,58	1,00	445	967,6	749,8

Table 11 – Average price ratio, by region

Numerator Denominator	Regio1	Regio2	Regio3	N	Mean	Standard Deviation
Regio1	1,00	0,93	0,74	239	1316,4	897,3
Regio2	1,06	1,00	0,79	227	1236,5	890,5
Regio3	1,34	1,26	1,00	244	980,3	739,1