

# A COMPARISON OF “OLD WORLD” WINES WITH “NEW WORLD” WINES: A CROSS COUNTRY STUDY

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## ABSTRACT

This paper studies the consumers’ preferences for certain types of good quality wines produced in the “old world” versus those produced in the “new world”. This study so far utilizes approximately 13,000 samples, manually extracted (still in process) from the rich database of *Wine Spectator* website. We considered the “old world” wine samples from Bordeaux region in France. The “new world” wine samples are from the various wine producing regions of Australia, Canada, Chile and USA. We selected two very popular red wine varietals: *Cabernet Sauvignon* and *Merlot* for our analysis. Three different econometric models (OLS, truncated OLS and ordered probit) have been used to estimate the effects of the “region of origin” (“old world” versus “new world”) on the wine rankings. Retrospectively, we examine whether the “old world” wines have a higher brand value than those produced in “new world”. It is found that the expert rankings of the “old world” French wine are consistently higher than those of the “new world” wines.

**Keywords:** Consumer’s preference, discrete choice models, wine quality-rankings, wine label attributes, old versus new world wine.

## INTRODUCTION AND LITERATURE SURVEY

Quality of wines and their pricing has been a topic of interest ever since we have started to consume them. One of the reasons that subjects the wine quality to so much debate and discussion is that it is a differentiated product with several quality indicators, many of which are highly subjective in nature. Indeed, it is difficult to define objective quality measures of wine. Nonetheless, there are certain objective characteristics of any bottle of wine that appears on the label, like the producer or brand name, region, variety or appellation, vintage and alcohol by volume (ABV). Among these recognizable objective features present in any bottle of wine, in this paper we will focus on the “region” where the wine is produced.

Wine being an experience good<sup>1</sup>, consumer’s choice is often influenced by quality evaluations by experts, available in rating by *Wine Spectator*, *Wine Advocate* and other such consumer reports, as noted by Roberts and Reagans [14]. As such, we will use data from the *Wine Spectator* website for our analysis, which is the largest source of online data on wine.

There is a growing body of literature that addresses the relationship between price and quality in the wine industry, for example by Landon and Smith [10], Corduas et al [5], Goldstein et al [8]. An extensive

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<sup>1</sup> An experience good is one whose quality is difficult to observe before consuming (experiencing) it (Nelson (1970)).

review on consumers' behaviour towards wine purchasing is available in Lockshin and Corsi [12]. Most of the above-mentioned literature have focused on how wine pricing is determined by many attributable factors including wine quality, colour, types of wine, alcohol content, producer's name, bottle weight, vintage, region, etc. However, not much research has been done on how market-determined price (as an exogenous factor) might influence expected quality of wine, in association with other wine label attributes, which is the focus of our paper along with regional influence. Likewise, most of the literature that studies price-quality relationships, are based on data from the European ("old world") wine industries. However, there are only a few such cross-country studies on the wines from both "old world" as well as the "new world", e.g., the US, Australia, Chile, etc. Our paper is an attempt to fill this gap in the literature. In this paper, we will try to examine whether a higher priced wine is usually associated with higher quality and whether it is mostly from the "new world" compared to "old world". Here quality of a wine is assumed to be captured by its score obtained from the Wine Spectator rankings, which are blindly assigned by the famous wine experts.

It had been widely discussed in international trade and marketing literature that the "region of origin" (henceforth ROO) of a product has an important effect on consumer preference, as in Abraham and Patro [1] and Schamel [15], among others. Sometimes, the ROO of a product may be regarded by consumers as a signal for high quality. Advertising campaigns promoting the high quality of German make cars, Columbian coffee or Austrian wine have been designed to take advantage of such consumer perceptions. Several studies have also confirmed that marketing strategies that highlight ROO can have a positive effect on improving brand equity, and increase firm value, for example in Tustin and Lockshin [16], Lee and Arcodia [11], Christensen et al [4] and de Magistris et al [6]. In this paper, we would like to focus on the ROO effect of consumer preference of wines, where the regions in question are however much larger, namely the "old world" versus the "new world" wines.

There have been several previous attempts to investigate the place of origin effect in wine, of which we are going to discuss three noteworthy ones. Johnson and Bruwer [9] studied this effect for selected California wine regions, namely Napa Valley, Sonoma county, Lodi region and Paso Robles. They used primary data, collected through an online survey of wine consumers across USA in May 2006. They noted that region of origin was the most important information to predict quality from wine labels. Further, the addition of regional information on a wine label increased consumer confidence in the quality of wine. However, the authors noted that their findings are tentative, since their study was conducted only with the USA consumers, and mostly among California residents with a relatively high wine involvement level. Engelbrecht et al [2] studied the region of origin (ROO) effect on 434 South African consumers through an online survey and found that it has only a secondary effect in the wine purchase decision of the consumer. Instead, the specific wine grape variety was the most important factor influencing consumers. Compared to these previous studies which considered consumers from a specific country, our research includes wine consumers all over the world, since we use the Wine Spectator rankings. We also use several econometric models to confirm our results.

## **OBJECTIVE AND RESEARCH QUESTIONS**

The main objective of this paper is two-fold. First, we want to confirm that higher priced wines are associated with higher quality irrespective of region of origin. Second, we intend to study the importance of the region of origin (ROO) present in wine labels in the consumer's purchase decision. Specifically, we examine whether "old world" wines have a higher ranking than the "new world" wines, after controlling for various wine attributes like price and type of wine. To operationalize our study, we formulate the following research questions, which we seek to answer through several econometric models:

1. What is the effect of market-derived price towards wine quality (as measured by experts' ranking in the Wine Spectator Database)? Is the relationship positive, and hence consistent with previous studies based on "old world" wine industries? This will allow us to study a key question that the consumers of wine are interested in, namely if one is paying more for a bottle of wine, is the wine then of a better quality?
2. What is the effect of "region-of-origin" (ROO) on wine? For wines at a similar price point, do the wines produced in the "old world" have a higher satisfaction score, on average, compared to those produced in the "new world"?
3. What insights can we obtain regarding the branding, marketing and promotional strategies for success in the wine sector, based on our findings of the above two research questions?

## DATA

Data used on this paper is based on the unique Wine Spectator database consisting of more than 13,000 wine samples. Wine rankings data for the varietal-type 'Cabernet Sauvignon' and 'Merlot' has been *manually* extracted from the Wine Spectator website [2018] (<http://www.winespectator.com>) including winery, country, vintage, market-determined price and individual score. For the sake of brevity and time-constraint, we limit our analysis to two red wine varietals, and 5 countries, four "new world", and one "old world" (additional data extraction for other "old world" wine countries (e.g., Italy, Germany, etc.) are in-process). A selected set of attributes from this database that we are using in our current analysis are listed below:

- *Wine Spectator rankings* – raw scores are blindly assigned by wine experts on a 0 – 100 scales. Fairly good quality wines are selected with score ranges between 80 and 100 (21 distinct individual scores). Individual scores are further classified as 'Good' (if raw score  $\leq 84$ ), 'Very Good' (if  $85 \leq$  raw score  $\leq 89$ ), 'Outstanding' (if  $90 \leq$  raw score  $\leq 94$ ), and 'Classic' (if raw score  $\geq 95$ ) according to the "Wine Spectator" scoring system.
- *Market derived price* (per 750 ml) with a cut-off maximum value of \$150.
- *Two wine types* – Cabernet Sauvignon (8192) and Merlot (5058).
- *Five countries* – USA (7604), Chile (1564), Canada (70), and Australia (2565) (all four "new world"), and Bordeaux region of France (1447) ("old world")
- *Vintage* – Production year ranges from 1974 to 2016.

Utility from a good quality wine is assumed to be represented by score obtained from the Wine Spectator rankings, which are blindly assigned by the famous wine experts. It is assumed that the experts' rankings reflect the consumers' preferences towards good quality wines. Many wine lovers select their wines following Wine Spectator Rankings. We will investigate the effects of *four* wine label characteristics: market-derived *price*, *varietal type* (Cabernet Sauvignon versus Merlot), *country* (Australia, Canada, Chile and USA vs. France); and *vintage-year* on *rankings*.

## EMPIRICAL METHODOLOGIES

Utilizing the rich database of Wine Spectator rankings, the effects of wine label attributes are investigated through OLS (ordinary least square) and truncated OLS models by Takeshi [3]. Individual raw scores between 80 and 100 are modelled through the following linear regression models:

$$\begin{aligned}
Rank_i &= \beta_0 + \beta_1 \log(Price)_i + \beta_2 Merlot_i + \beta_3 Australia_i + \beta_4 Canada_i + \beta_5 Chile_i \\
&\quad + \beta_6 USA_i + \beta_7 Vintage_i + \varepsilon_i, \\
&\text{where } 80 \leq Rank_i \leq 100 \\
\varepsilon_i &\sim N(0, \sigma_i^2) \text{ for OLS regression model} \\
\varepsilon_i &\sim \text{truncated} - N(0, \sigma_i^2) \text{ for double truncated regression model}
\end{aligned} \tag{1}$$

Here the effect of the wine variety *Merlot* is compared against its competitive variety *Cabernet Sauvignon*. Regional effects of the “new world” countries *Australia*, *Canada*, *Chile* and *USA* are compared against the representative “old world” country *France*. Log of market derived price per 750 ml (as an exogenous factor) is denoted as  $\log(Price)_i$  and  $Vintage_i$  is the year of production. Data on all these variables are listed in the *Wine Spectator* database.

So far, most wine industry researchers have considered the *ordered probit model* as their preferred mode of regression estimation while investigating the effect of price or other attributable characteristics on wine quality rankings (e.g., Goldstein et al [8], Lockshin and Rhodus [13]). Greene and Hensher [7, Chapter 5] describes the details of the discrete choice models for ordered responses. The observed responses of four quality ranking categories can be modeled through a latent variable  $y_i^*$  through the following random utility regression model:

$$y_i^* = \beta_1 \log(Price)_i + \beta_2 Merlot_i + \beta_3 Australia_i + \beta_4 Canada_i + \beta_5 Chile_i + \beta_6 USA_i + \beta_7 Vintage_i + \varepsilon_i, \tag{2}$$

$$Rank_i \begin{cases} = \text{Good (1)} & \text{if } y_i^* < \mu_1 \\ = \text{Very Good (2)} & \text{if } \mu_1 \leq y_i^* < \mu_2 \\ = \text{Outstanding (3)} & \text{if } \mu_2 \leq y_i^* < \mu_3 \\ = \text{Classic (4)} & \text{if } \mu_3 \leq y_i^* \end{cases}$$

$$\text{where } f(\varepsilon_i) = \frac{\exp(-(\varepsilon_i/\sigma_i)^2 / 2)}{\sqrt{2\pi}\sigma} \text{ for probit model} \tag{2a}$$

Accordingly, the random error term  $\varepsilon_i$  follows a conventional cumulative distribution function (cdf), denoted as  $F(\varepsilon_i|x_i) = F(\varepsilon_i)$ . Possible heteroscedasticity in the proposed ordered probit model is addressed through the robust “sandwich” estimator for the asymptotic covariance matrix proposed by White [1980], as inherently calculated by STATA.

The latent variable equation (2) can be rewritten in the following general format with  $x_i$  being a vector of seven covariates and  $\beta$  being the associated coefficient vector, to be estimated along with the range parameters  $\mu_1, \mu_2$  and  $\mu_3$ .

$$y_i^* = \beta' x_i + \varepsilon_i \tag{3}$$

The likelihood probabilities for the ordered ranks are

$$\begin{aligned}
Prob[Rank_i = 1 | x_i] &= Prob[y_i^* < \mu_1] = Prob[\varepsilon_i < \mu_1 - \beta' x_i] = F(\mu_1 - \beta' x_i) \\
Prob[Rank_i = 2 | x_i] &= Prob[\mu_1 \leq y_i^* < \mu_2] = F(\mu_2 - \beta' x_i) - F(\mu_1 - \beta' x_i) \\
Prob[Rank_i = 3 | x_i] &= Prob[\mu_2 \leq y_i^* < \mu_3] = F(\mu_3 - \beta' x_i) - F(\mu_2 - \beta' x_i) \\
Prob[Rank_i = 4 | x_i] &= Prob[\mu_3 \leq y_i^*] = 1 - F(\mu_3 - \beta' x_i) = F(\beta' x_i - \mu_3)
\end{aligned}$$

The marginal effects or the changes in the probabilities for the ordered probit and logit models are derived separately depending on  $x$  being continuous or discrete (dummy) variable in the following manner:

**Case 1:**  $x$  is continuous variable (e.g.,  $\log(\text{Price}_i)$ )

$$\delta_1(\mathbf{x}_i) = \frac{\delta[\text{Prob}(\text{Rank} = 1 | \mathbf{x}_i)]}{\delta[\mathbf{x}_i]} = [f(\mu_1 - \boldsymbol{\beta}'\mathbf{x}_i)](-\beta) \quad (4)$$

$$\delta_2(\mathbf{x}_i) = \frac{\delta[\text{Prob}(\text{Rank} = 2 | \mathbf{x}_i)]}{\delta[\mathbf{x}_i]} = [f(\mu_1 - \boldsymbol{\beta}'\mathbf{x}_i) - f(\mu_2 - \boldsymbol{\beta}'\mathbf{x}_i)]\beta \quad (5)$$

$$\delta_3(\mathbf{x}_i) = \frac{\delta[\text{Prob}(\text{Rank} = 3 | \mathbf{x}_i)]}{\delta[\mathbf{x}_i]} = [f(\mu_2 - \boldsymbol{\beta}'\mathbf{x}_i) - f(\mu_3 - \boldsymbol{\beta}'\mathbf{x}_i)]\beta \quad (6)$$

$$\delta_4(\mathbf{x}_i) = \frac{\delta[\text{Prob}(\text{Rank} = 4 | \mathbf{x}_i)]}{\delta[\mathbf{x}_i]} = [f(\boldsymbol{\beta}'\mathbf{x}_i - \mu_3)](\beta) \quad (7)$$

Where  $f(\cdot)$  denotes the respective probability density function (pdf) for Normal (probit) distribution.

**Case 2:**  $x$  is discrete variable (e.g.,  $\text{Merlot}_i$ ) with 2 levels

$$\begin{aligned} ME(x = ' \text{Merlot}' , w.r.t x = ' \text{Cabernet Sauvignon}' ) \\ = [\text{Prob}(\text{Rank}_i = j | \bar{X}_{(d)}, x = ' \text{Merlot}' )] \\ - [\text{Prob}(\text{Rank}_i = j | \bar{X}_{(d)}, x = ' \text{Cabernet Sauvignon}' )]; \end{aligned} \quad (8)$$

Where  $\bar{X}_{(d)}$ , denotes the means of all other variables in the model and  $j = ' 1 ', ' 2 ', ' 3 ' \& ' 4 '$ .

**Table 1a** Descriptive statistics for ranking categories and their distribution (frequencies) according to countries and varieties

Variable	Total N=13250	80 ≤ Score ≤ 84 N=2674	85 ≤ Score ≤ 89 N=6502	90 ≤ Score ≤ 94 N=3763	95 ≤ Score ≤ 100 N=311	p-value
Log(price)						
Mean (SD)	3.376 (0.755)	2.770 (0.608)	3.279 (0.647)	3.883 (0.592)	4.490 (0.633)	0.000
Range	1.386 – 6.620	1.386 – 5.010	1.386 – 5.562	1.946 – 5.483	2.485 – 6.620	(SLR)
<b>Country</b>						
Australia	2565	558	1533	467	7	0.000
Canada	70	19	38	13	0	(Chi-
Chile	1564	659	717	178	10	SQ)
USA	7604	115	3566	639	45	
France	1447	1323	648	2466	249	
<b>Varietal</b>						
Cabernet	8192	1423	4031	2449	289	0.000
Sauvignon						(Chi-
Merlot	5058	1251	2471	1314	22	SQ)

**Note.** P-value between Log (price) and Ranking categories are obtained through simple linear regression (SLR)

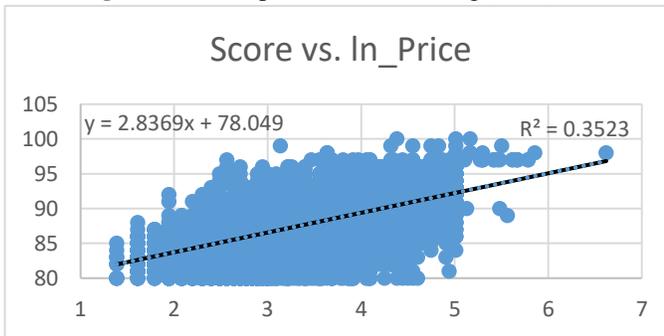
Chi-SQ: Chi-square test of association between two categorical variables

## RESEARCH FINDINGS

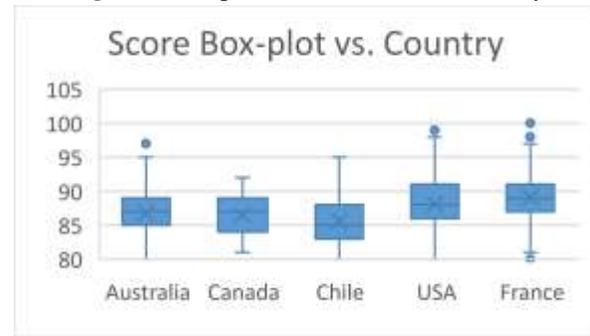
The main findings from of the paper are summarized below, according to the research questions we had set earlier in the paper.

1. *Effect of market-derived price towards wine quality:* Each of the three econometric models show that price has a significant positive effect on ranking for the wines, further supporting the positive price-quality hypothesis from related market research studies [8] [13]. The regression results from all the three models as presented in Table 2a – 2b prove that higher priced wines will be typically of a higher quality irrespective of regional influence. This is also confirmed from the Scatter plot in Figure 1.

**Figure 1** Scatter plot of Score vs. Log(Price)



**Figure 2** Box plots of wine score vs. country



- Effect of “region-of-origin” (ROO) on wine procurement:* The wines from Australia, Canada, Chile and USA likely to have lower rankings compared to the similar wines from France. Cross country comparison shows wines produced in France receive higher rankings compared to Australia, Canada and Chile for a similar price-level and same wine varietal. This effect is statistically significant, as captured by the regression results in Table 2a – 2b. This effect is also supported graphically by the Box plot in Figure 2. This could be due to the long history and traditions of producing wines of Bordeaux region of France compared to their “new world” counterparts.
- Insights on branding and marketing strategies in the wine sector:* Our analysis showed that upon blind tasting, wine experts consistently put higher scores (indicating wines of higher quality) to more expensive wines. If we assume that consumer preferences are influenced by such expert ratings in the WS, it is imperative for wine sellers to position their product appropriately in the product-price matrix. For example, if a wine is priced higher than competing wines that are at a similar ranking bracket in the WS, informed consumers are likely to regard it as too expensive relative to its competitors, and its market share is likely to be reduced.

Second, recall that our findings indicate that the ratings of the French wines, the only “old world” wine in our example, is consistently higher than its “new world” competitors situated at a similar price point in the WS database. For the “new world” wine producers and sellers, it may suggest that they have priced their wines at a higher level compared to the competing French wines of similar ratings. Therefore, our paper recommends that they need to implement a downward price correction to be more competitive with their “old world” competitors. Conversely, for the “old world” wine sellers, this paper recommends that they can use different means or “origin branding” that emphasizes the higher value for money that their wines seem to provide, which this research seem to indicate. The wineries and brands from France, for example, can use some co-ordinated marketing or promotional strategies to create a *lighthouse identity*<sup>2</sup> in the minds of wine buyers, highlighting that they provide a higher value for money compared to the “new world” wines. Often such co-ordinated marketing strategies cannot be achieved because the wine sellers from the same country are competing among themselves. In view of this, one policy would be to lobby to the government to implement strategies at the country level – as part of export promotion policies that many countries already have in place – so that their domestic wines sell more in foreign markets, which leads to higher export earnings, domestic job creation and GDP. These are some of the managerial implications of our paper.

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<sup>2</sup> In marketing literature, a “lighthouse identity” branding is about developing a clear sense of who you are and where you stand in business and projecting that identity intensely so that consumers notice it even if they may not be looking for it, like a lighthouse.

**Table 2a** Coefficient estimates (robust – SE) from OLS, truncated OLS regression and ordered probit models

Wine Attributes	OLS	Truncated OLS	Ordered probit
Log(price)	2.96*** (0.05)	2.71*** (0.04)	0.97*** (0.02)
Merlot	-0.55*** (0.05)	-0.58*** (0.06)	-0.19*** (0.02)
Australia	-0.64*** (0.12)	-0.66*** (0.10)	-0.20*** (0.04)
Canada	-2.09*** (0.28)	-2.28*** (0.31)	-0.75*** (0.13)
Chile	-0.63*** (0.11)	-0.75*** (0.11)	-0.29*** (0.5)
USA	-0.38*** (0.08)	-0.34*** (0.08)	-0.14*** (0.03)
Vintage	0.002* (0.001)	0.001* (0.001)	0.001 (0.001)
Constant	75.39*** (2.05)	76.30*** (2.06)	/cut1: 2.98 (0.70) /cut2: 4.69 (0.70) /cut3: 6.58 (0.70)

**Note.** (SE of coefficient) is given below the estimated coefficient. Coefficient significance is reported as \*\*\*, \*\* and \* for 1%, 5% and 10% level of significance respectively.

**Table 2b** Estimated partial effects (evaluated at conditional mean):  $\frac{dy}{dx}$  from ordered probit regression

Wine attributes	80 ≤ Score ≤ 84 (0.202)	85 ≤ Score ≤ 89 (0.490)	90 ≤ Score ≤ 94 (0.283)	95 ≤ Score ≤ 100 (0.023)
Log(price)	-0.218*** (0.004)	-0.096*** (0.005)	0.298*** (0.006)	0.016*** (0.001)
Merlot	0.042*** (0.005)	0.019*** (0.002)	-0.058*** (0.007)	-0.003*** (0.000)
Australia	0.046*** (0.009)	0.020*** (0.004)	-0.062*** (0.012)	-0.003*** (0.000)
Canada	0.170*** (0.029)	0.074*** (0.013)	-0.232*** (0.040)	-0.012*** (0.002)
Chile	0.066*** (0.010)	0.029*** (0.004)	-0.090*** (0.014)	-0.005*** (0.000)
USA	0.031*** (0.007)	0.014*** (0.003)	-0.042*** (0.010)	-0.002*** (0.001)
Vintage	-0.000 (0.000)	-0.000 (0.000)	0.000 (0.000)	0.000 (0.000)

**Note.** Coefficient significance is reported as \*\*\*, \*\* and \* for 1%, 5% and 10% level of significance respectively.

## CONCLUDING REMARKS AND FUTURE RESEARCH

This paper has utilized data on more than 13,000 wine samples, *manually extracted* from the unique Wine Spectator (WS) database consisting of two red wine varieties (Cabernet Sauvignon and Merlot) across five wine producing countries, 4 from the “new world” countries (USA, Chile, Canada and Australia), and one from the “old world” countries (France). Using three econometric models (OLS, truncated OLS, and ordered probit), we found that higher priced wines are associated with higher wine rankings irrespective of regional effect, which implies a positive relationship between price and wine quality. We have also found that, after controlling for price and other attributes, French wines received statistically significant

higher rankings compared to the “new world” wines in our sample. Based on these findings, we have also suggested some marketing and sales strategies for both “old world” and “new world” wine sellers.

We have restricted our analysis to wine samples to two red wine varieties (Cabernet Sauvignon and Merlot) and six countries (USA, Chile, Canada, Australia and France) due to time constraints. Additional wine samples could be extracted for other related red-wine varieties (for example, Pinot Noir, Shiraz etc.), as well as those produced in other wine producing countries not included in this study. Consumers’ purchasing decision is often significantly affected by specific preferences towards well known wineries, available from the WS database. These can be included in our analysis as well, which will provide more valuable insights. The authors are at present working on these extensions.

## REFERENCES

- [1] Abraham A, Patro S. ‘Country-of-Origin’ Effect and Consumer Decision-making. *Management and Labour Studies*. 2014; 39(3):309-18.
- [2] A. Engelbrecht J, Herbst F, Bruwer J. Region-of-origin (ROO) certification as marketing strategy in the South African wine market. *International Journal of Wine Business Research*. 2014; 26(2):139-62.
- [3] Amemiya T. Regression analysis when the dependent variable is truncated normal. *Econometrica: Journal of the Econometric Society*. 1973:997-1016.
- [4] Christensen B, Kenney M, Patton D. Regional identity can add value to agricultural products. *California Agriculture*. 2015; 69(2):85-91.
- [5] Corduas M, Cinquanta L, Ievoli C. The importance of wine attributes for purchase decisions: A study of Italian consumers’ perception. *Food Quality and Preference*. 2013; 28(2):407-18.
- [6] de Magistris T, Groot E, Gracia A, Miguel Albu L. Do millennial generation's wine preferences of the “New World” differ from the “Old World”? A pilot study. *International Journal of Wine Business Research*. 2011; 23(2):145-60.
- [7] Greene WH, Hensher DA. *Modeling ordered choices: A primer and recent developments*, 2008.
- [8] Goldstein R, Almenberg J, Dreber A, Emerson JW, Herschkowitsch A, Katz J. Do more expensive wines taste better? Evidence from a large sample of blind tastings. *Journal of Wine Economics*. 2008; 3(1):1-9.
- [9] Johnson R, Bruwer J. Regional brand image and perceived wine quality: the consumer perspective. *International Journal of Wine Business Research*. 2007; 19(4):276-97.
- [10] Landon S, Smith CE. The use of quality and reputation indicators by consumers: the case of Bordeaux wine. *Journal of Consumer Policy*. 1997; 20(3):289-323.
- [11] Lee I, Arcodia C. The role of regional food festivals for destination branding. *International Journal of Tourism Research*. 2011; 13(4):355-67.
- [12] Lockshin L, Corsi AM. Consumer behaviour for wine 2.0: A review since 2003 and future directions. *Wine Economics and Policy*. 2012; 1(1):2-3.
- [13] Lockshin LS, Timothy Rhodus W. The effect of price and oak flavor on perceived wine quality. *International journal of wine marketing*. 1993; 5(2/3):13-25.

- [14] Roberts PW, Reagans R. Critical exposure and price-quality relationships for new world wines in the US market. *Journal of Wine Economics*. 2007; 2(1):84-97.
- [15] Schamel G. Geography versus brands in a global wine market. *Agribusiness: An International Journal*. 2006; 22(3):363-74.
- [16] Tustin M, Lockshin L. Region of origin: does it really count. *Australian and New Zealand Wine Industry Journal*. 2001; 16(5):139-43.