

## Padua 2017 Abstract Submission

### Title

Hedonic Pricing Models for Wines from Friuli Venezia Giulia

### I want to submit an abstract for:

Conference Presentation

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### Keywords

hedonic pricing, reputation, ordered response models, wine, Friuli Venezia Giulia

### Research Question

What is the impact of 2016 Gambero Rosso wine quality awards and of previous awards that carry a reputation effect on prices for Friuli Venezia Giulia (FVG) wines?

### Methods

We evaluate the significance of receiving wine quality awards and reputation effects from having received previous awards using ordered dependent variable models (logit and probit).

### Results

The results show that Gambero Rosso wine awards and reputation effects due to previous awards of the same or a higher order during previous years exhibit significant price premiums.

### Abstract

Many authors have applied the hedonic pricing models to wines in different regions of the world. Nevertheless, relatively little literature exists on hedonic model applied to Italian wines. In an attempt to fill this gap, a hedonic model is developed for wine produced in Friuli Venezia Giulia (FVG), given the great variety and quality of its wines, especially whites, and the importance of the wine sector both in economic and cultural terms for this region.

The main objective of this paper is to understand which characteristics affect the prices of wine from Friuli Venezia Giulia and to determine their significance and relative importance. For this purpose, we obtain a data set of 1078 Friulian wines from the 2016 Gambero Rosso wine guide and estimate two ordered dependent variable hedonic pricing models, given the nature of the price data provided.

Hedonic analyses are built on the assumption that consumers act in order to maximize their utility and they base their decisions on easily available information such as expert quality ratings and reputation. According to Rosen (1974), the hedonic pricing model associates the price of a good to the characteristics, both qualitative and quantitative, that generate utility. Therefore, the resulting hedonic function defines the price of a good as a function of its characteristic features.

Hence, our model's dependent variable is the price category of FVG wines provided by Gambero Rosso Guide Vini d'Italia, while the independent variables are: award levels (one black glass, two black glasses, two red glasses and

three red glasses), production region (i.e. the four provinces of wine production in FVG), the main wine varieties (Friulano, Picolit, Ribolla Gialla, Malvasia, Chardonnay, Pinot Grigio and Sauvignon), wine color (white, red, rosè), wine age, and if applicable the previous vintage award levels in 2014 and 2015 as a measure of reputation. Except for age and award levels, regular variable and regular dummies respectively, the others are categorical dummies. The variable award accounts for the type of award assigned by Gambero Rosso in 2016, while level of past awards granted by Gambero Rosso in 2014 and 2015 are used as reputation indicators, so as to assess whether the very same wine awarded in 2016 had received a prize of the same or higher level also in the previous two years.

The price data provided by Gambero Rosso Guide Vini d'Italia is not in nominal terms but in categories represented by a number from one to eight. Hence, given the ordinal nature of the dependent variable, it is necessary to employ ordered response models (e.g. a logit and/or probit model). The results of the two models consist of the estimated coefficients related to the parameters, which, according to Heij et al. (2004, p. 450), do not correspond to the marginal effects on the dependent variable, as they do in the least square method. Therefore, it can be stated that when the estimated coefficients (maximum likelihood estimates) are greater than zero, they have a positive impact on the dependent variable, and when lower than zero a negative one (cf. *ibid.*, 2004, p. 477).

We estimate the ordered probit and logit models using the EViews software, setting the error distribution as normal for the probit and as logistic for the logit. Even though the coefficients obtained for the two models differ from one another, they show the same results and can be interpreted similarly. Nevertheless, given the slightly higher Pseudo R-squared and the smaller Akaike's and Schwarz's Bayesian information criteria, the ordered logit model should be preferred as it appears to fit the data better. Then, the coefficients can be interpreted as marginal effects (Long and Freese, 2001, p. 154) only if they are standardized by the estimated standard deviation of the dependent variable, both the unstandardized and y-standardized coefficients are estimated using Stata.

The results of the two models show that Friulian wines having received a 2016 Gambero Rosso award carry a positive and substantial price premium not only for the current award but also for having received an award of the same or of a higher order in the previous two years. As Friuli Venezia Giulia is clearly a white wine region, whites carry a premium over reds. In particular, the substantial premium associated to the sweet white wine Picolit is coherent with the peculiarities of this autochthonous grape variety. Furthermore, as also shown in other studies, older vintage wines result to be more expensive. Moreover, sub-regional effects (i.e. area or province of production) also have a considerable effect on prices. Therefore, we may confirm the important role of experts' ratings and related reputation effects.

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