



What Attributes Explain Variation in the Prices of Willamette Valley Pinot Noir?

Emily Walker and Chase Meyers

Linfield Department of Economics • Spring 2018

I. Abstract:

Oregon Pinot Noir is known around the world for having a price point that many can afford while not abandoning the quality that was once only produced by reputable French Chateaus. Understanding what makes one bottle cost more than another is something that must be considered in order to find a price that will satisfy both the consumer and the winemaker. The hedonic pricing model used in this research employs data collected from winery websites such as the WineMag, a highly regarded website for ratings of wines across all price points. A cross sectional model is estimated. Results show that three factors of the eight tested are significant in explaining the prices of Pinot Noir. The significant factors are the alcohol percentage of the wine, LIVE (a sustainability certification) and the rating provided by the WineMag.

II. Model and Variables

$$\text{LOG}(\text{PRICE}_i) = f(\text{LIVE}_i, \text{WC}_i, \text{BAR}_i, \text{AP}_i, \text{AGED}_i, \text{RATE}_i, \text{VIN}_i, \text{YIB}_i)$$

- $\text{LOG}(\text{PRICE}_i)$ is the price of a bottle of Willamette Valley Pinot Noir.
- LIVE_i is a variable controlling for certification of environmentally and socially responsible wine making and growing techniques.
- WC_i is a variable controlling for whether or not a winery has a wine club.
- BAR_i is a variable controlling for whether or not a winery uses oak barrels.
- AP_i is the alcohol percentage of the wine.
- AGED_i is a variable for the number of months a wine was aged.
- RATE_i is a variable for the wine rating given by WineMag, varying between 80 and 100.
- VIN_i is a variable for the year that the grapes were harvested.
- YIB_i is a variable indicating the number of years the winery has been in business.

III. Theory and Hypotheses

- LIVE_i , WC_i , and BAR_i are hypothesized to have positive relationships with PRICE_i because the presence of each of these variables may indicate a higher cost of producing the wine.
- AP_i is expected to have a positive relationship with PRICE_i because longer fermentation periods increase the production cost of the wine.
- AGED_i is expected to have a positive relationship with PRICE_i because aged wine may be perceived to be of higher quality.
- RATE_i is expected to have a positive relationship with PRICE_i because higher ratings may mean the wine is perceived to be of higher quality.
- VIN_i is expected to have a positive relationship with PRICE_i because the vintage year may affect perceptions of quality.
- YIB_i is expected to have a positive relationship with PRICE_i because recognized wineries may be perceived as producing higher quality wines.

IV. Data

- Cross sectional data for Willamette Valley Pinot Noirs
 - Total sample size 59
 - Unique wineries represented 46
 - Vintages represented 9
 - Price Range \$12-275
 - Rating Range 81-96
- Data Sources
 - WineMag (www.winemag.com/region/oregon/)
 - LIVE (livecertified.org/certified-members)
 - Individual winery websites

V. Empirical Results

Independent Variables	Version 1		Version 2	
	Coefficient	Standard Error	Coefficient	Standard Error
Qualitative				
Barrel	-0.074	0.238		
LIVE	0.209	0.118**	0.278	0.111*
Wine Club	0.212	0.184		
Quantitative				
Alcohol Percentage	0.138	0.103***	0.15	0.095***
Months Aged	0.018	0.017		
Rated	0.103	0.02*	0.128	0.016*
Vintage	-0.001	0.028		
Years in Business	0.003	0.005		
Adjusted R2	0.61		0.612	

(*,**,***) Statistically different from zero at (.025, 0.05, .10) level of significance

VI. Conclusion

We find evidence that three variables have positive impacts on the prices of Willamette Valley Pinot Noir. All else held constant;

- A one unit increase in a wine's rating increases the bottle price by 12.8%
- A one percent increase in alcohol content increases the bottle price by 15%
- The presence of the LIVE certification increases the bottle price by 27.8%

These results indicate that both consumers' perceptions of quality and the cost of producing the wine affect the bottle price.