

# **Quality differentiation in wine markets**

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## **Abstract**

This dissertation consists of three studies that investigate how quality and reputation factors affect prices and consumer behavior in wine industry. Individual-level and regional-level data from Washington and California wines are analyzed. Models broadly applicable to elicit consumer preferences and describe how intrinsic product characteristics affect market prices under the circumstance of experience goods are developed.

The first paper evaluates how sensory properties of Washington State red wine affect consumers' willingness to pay using data from individual level tasting and laboratory measurements. A consumer-preference model serves as a benchmark and three intensity models (consumer-intensity, trained-panel and instrumental measurement) are estimated and compared to quantify sensory effects. The result shows that the closer a wine is to a consumer's ideal, the more they are willing to pay, and astringency has a mostly positive effect, while bitterness has a negative effect. Comparing the accuracy of these models, the consumer-preference model is the most accurate in predicting consumers' willingness to pay and the instrumental-measurement model is the next best, followed by trained-panel model, and the consumer-intensity model. This suggests that the instrumental measurements can be used as an effective alternative to trained panels. This is important because trained panels are less practical to use on an ongoing basis.

The second study focuses on the relationship between organic certification and wine prices for California and Washington red wines. It investigates whether the presence of an organic certification affects prices utilizing a hedonic price model. The results suggest that wines made from organic grapes command a premium while wines produced via organic methods do not. In addition, there is a positive interaction between "estate-grown" and organic certification.

The third study in this dissertation focuses on the evolution of reputation in California red wines. Time series analyses and spatial effects models will be applied to analyze the interaction effects among regions for wine reputation.