

Who's Afraid of Robert Parker?
A Statistical Analysis of Quality Ratings and Prices for California wines

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Abstract

This paper quantifies the relationships between quality, expert ratings and price for California wines. In doing so, we address two oversights in the literature on wine pricing. First, we explain wine pricing in California. Though a number of authors have developed hedonic price functions (those which seek to explain a wine's price through its discrete attributes) for viticultural areas around the world, they have largely ignored wines from California. Moreover, the two papers that do examine California wines use list prices rather than street prices, yielding a major error problem in the dependent variable. Second, while a number of these hedonic studies have included the scores that wines receive from expert raters themselves as independent variables, few have attempted to determine the underlying factors that impact these ratings. This is a major methodological problem because the coefficient estimates on ratings may be biased if the factors that affect wine ratings are correlated with the error term in the resulting hedonic price equation.

This paper addresses both shortcomings in the literature. First, it examines the factors that affect prices for California wines, employing actual retail prices for wine. Second, to overcome the endogeneity problem of ratings, the paper employs a two-stage least squares method to allow for unbiased coefficient estimates. Moreover, we examine the role of four different expert raters: Robert Parker, Stephen Tanzer, *Wine Spectator* and the *Connoisseurs' Guide to California Wines*.

This method has two added benefits. First, the first-stage regression, which estimates expert scores based on the keywords used in the accompanying tasting notes, allows us to uncover the characteristics of typical wines that are favored by raters. The results are somewhat surprising and run against the conventional wisdom of winemakers and wine sellers alike. The wine industry currently operates with a set of anecdotal evidence and assumptions about expert raters' tastes. We quantify these assumptions (preferences) empirically, and show that in the case of the most prominent rater in the world, Robert

Parker, many of these assumptions are either not true or too simplistic. We also show statistical regularities in the ratings of Parker and three other major experts.

Second, our statistical analysis has strategic business implications for firms at nearly every point in the wine industry value chain. The cross-expert comparative results allow winemakers to predict the score their wines might receive from a given rater, as well as the resulting price they might expect from that estimated rating; such analysis would inform several choices that a winemaker faces: whether to submit a given wine vintage to a reviewer, how to maximize its profits through modifications to its production processes, and which pricing policy is optimal given the estimated ratings for its wines..

Finally, our model predicts which wines are over- or underpriced, a boon to both retailers and consumers. The former may avoid overpaying for wines at wholesale, thus avoiding future discounting. Likewise, consumers may make better decisions at the retail shelf, and even seek out those wines that offer the greatest value.