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### **Are U.S. Riesling Wines Correctly Priced Given Their Tasting Scores?**

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Do U.S. wineries correctly price their Riesling wines based upon quality as captured by the wine's tasting score? Wineries set release prices before wines are tasted and scored. That presents an opportunity to investigate the relationship between tasting scores and wine release prices. Our research indicates that the release price is not based upon the tasting score alone. The wine region is also a determination of the release price. The conclusion is that on average wineries correctly price their Riesling wines given the future tasting score plus any location premiums or discounts.

This research was recently published in the *Journal of Wine Economics* and earlier presented at the 2018 annual meeting of the American Association of Wine Economists, which was held in Ithaca, New York. Since Ithaca is in the New York Finger Lakes Region we decided to look at the pricing of Rieslings wines, the signature wine of the Finger Lakes.

We used the release prices of U.S. Riesling wines over the vintage years of 2000 through 2006, which were tasted and scored by *Wine Spectator*. Ice wines, mostly in 375 ml bottles, and wine in 1.5-liter bottles were both deleted from the data. The data consists of the complete name of the wine, vintage year, release price, viticulture area, and the tasting score as determined by the *Wine Spectators* tasting panel for Riesling wines from across the United States.

Table 1 contains a summary of the data by year. There are 1,922 observations from 792 wineries. The number of wines evaluated increases by year, with a peak number of 206 U.S. Rieslings evaluated in the year 2011. The tasting scores for these Rieslings averages 82 the first year of 2000 and increases to 89 by the last year of 2016. Our interpretation is that U.S. Rieslings have improved over this 17-year period as reflected by an increase in the score over time, and that the panel's tasting scores did not otherwise inflate over time. It is obvious, however, that the average price of these U.S. Rieslings has increased over time, from an average

nominal price of \$11.20 in year 2000 to \$19.06 by year 2016. Therefore all prices were adjusted for inflation to 2016 values, using the U.S. CPI for all beverages and food.

Table 1. Summary of 1,922 U.S. Riesling Wines from *Wine Spectator* Tastings

Vintage Year	Number of Wines	Average Score (min, max)	Average Price (min, max)	Average Real Price (2016 base)
2000	54	82 (72, 91)	11.20 (6, 24)	16.48
2001	57	84 (76, 90)	11.25 (6, 20)	16.05
2002	55	84 (77, 91)	12.44 (6, 30)	17.42
2003	50	84 (77, 91)	12.98 (7, 25)	17.81
2004	50	85 (79, 89)	14.16 (7, 30)	18.80
2005	69	85 (74, 90)	15.59 (7, 30)	20.20
2006	127	85 (74, 91)	16.11 (8, 59)	20.40
2007	146	85 (68, 91)	16.49 (8, 39)	20.09
2008	157	86 (76, 92)	16.41 (8, 39)	18.98
2009	146	87 (72, 92)	16.91 (8, 39)	19.20
2010	156	87 (79, 92)	17.68 (8, 40)	19.91
2011	206	86 (75, 91)	18.22 (8, 59)	19.80
2012	211	87 (80, 92)	18.82 (8, 50)	19.95
2013	149	87 (77, 91)	18.79 (10, 39)	19.63
2014	161	88 (78, 93)	19.00 (8, 39)	19.42
2015	111	88 (79, 92)	18.80 (8, 40)	18.87
2016	17	89 (86, 92)	19.06 (9, 30)	19.06

The distribution of U.S. Riesling tasting scores over the years 2000 through 2016 is shown in Figure 1. That figure shows that the bulk of U.S. Riesling wines receive scores from 85 to 90, with a subset of Riesling wines breaking the 90-rating barrier, but with some wines ranking lower than 80.

Figure 1. Distribution of U.S. Riesling Wine Tasting Scores, 2000-2016

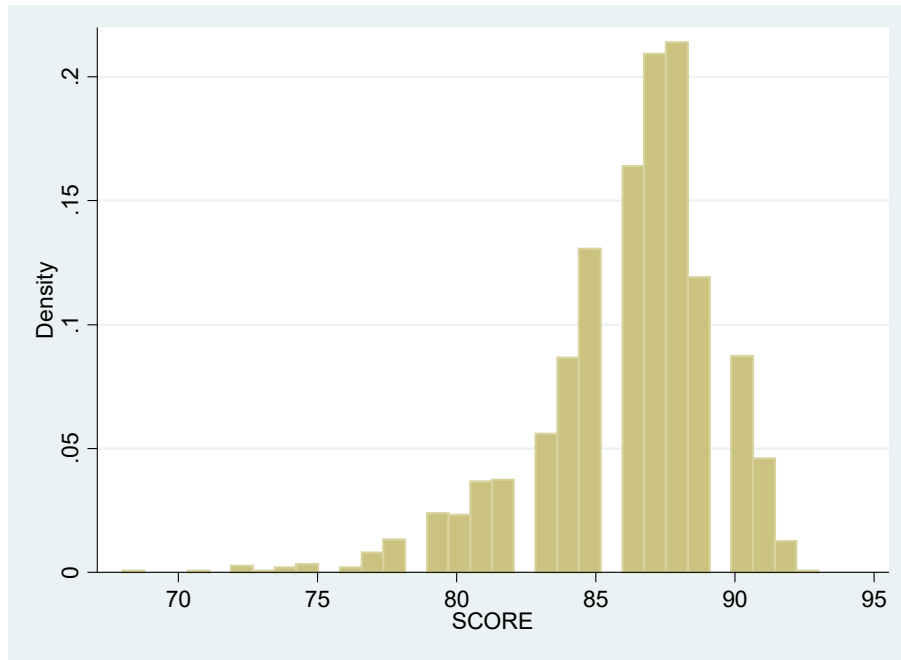


Table 2 shows the number of Rieslings in the data by state, with the average price per bottle and the average tasting scores, with the Finger Lakes separated from the rest of New York state. Many of the Rieslings are from the Finger Lakes, followed by the state of Washington. Oregon Riesling wines receive the highest average tasting score, and also command the highest average price. However, averages mask individual wine tasting scores and prices. Specifically, we sought answers to the following three questions: (1) Is the tasting score consistent with the release price of Riesling wines? (2) What is the influence of prestige as determined by winery regional location, on Riesling wine prices? (3) Do economies of scale influence Riesling wine prices? To answer these questions, we regressed the release price on tasting score, and then also location and cases produced, allowing for errors in overpricing or underpricing.

Table 2. Riesling Wine Numbers, Prices (Nominal), and Tasting Scores by State, Years 2000 through 2016

State	Number of Wines	Average Price	Average Score
California	138	16.06	84.13
Washington	459	14.03	87.17
Oregon	153	20.86	87.88
NY Finger Lakes	874	17.85	86.33
Other New York	205	19.00	85.49
Other States	93	13.54	81.41

The Riesling wines are underpriced on average by 19% and overpriced on average by 20% using only the tasting score as the explanatory variable. Although very few wines are substantially under or overpriced, one wine was underpriced by 171% and another wine was overpriced by 285%.

To answer our second question, we included the region of the wine into the pricing equation and found that there was no underpricing and that overpricing was only 1 percent on average, with one wine only 4 percent overpriced. This is evidence that wineries use not only the expected tasting score in deciding a release price, but that they also use the pricing premiums or discounts for their region. In other words, they know how their winery neighbors are pricing their wines and use that information in determining the release price given the expected tasting scores.

Finally, the answer to the third question is that wineries with high production volume do price their wines lower. A possible explanation is that larger wineries set the release price lower given the expected tasting score and their region as a form of insurance against an inventory of unsold wine. They might also be able to set a lower price due to a lower cost of production attributable to volume. However, the median number of cases produced by the wineries is 794, and 75 percent of the wineries produced 3,800 cases or less, so this estimate must be interpreted with caution.

Fried, H., and Tauer, L. (2019). Efficient Wine Pricing Using Stochastic Frontier Models. *Journal of Wine Economics*. 14(2):164-181. doi:10.1017/jwe.2019.16

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