Price Impacts of Tasting Notes Across Wine Segments

Kuan-Ju Chen
School of Economic Sciences
Washington State University
Pullman, WA 99164
E-mail: kuan718.chen@wsu.edu

Jill J. McCluskey
School of Economic Sciences
Washington State University
Pullman, WA 99164
E-mail: mccluskey@wsu.edu

Selected Poster prepared for presentation at the Agricultural & Applied Economics Association’s 2016 AAEA Annual Meeting, Boston, Massachusetts, July 31-August 2, 2016

Copyright 2016 by Kuan-Ju Chen and Jill J. McCluskey. All rights reserved. Readers may make verbatim copies of this document for non-commercial purposes by any means, provided this copyright notice appears on all such copies.
INRODUCTION

• Wines are experience goods, so consumers must rely on their previous experience or expert opinions in buying wine.
• Factors that may influence wine selection
  ▪ Sensory characteristics
  ▪ Quality information, such as expert ratings
  ▪ Reputation of wine maker
  ▪ Region of production
• Do tasting notes affect prices?
• For more expensive wines, do buyers expend more effort on search?

OBJECTIVES

Develop a model to estimate the impact of tasting note content on wine prices and whether the impacts are different across market segments within the wine category.

DATA

• Seventeen years of observations (1997-2013)
• 6,085 observations from Wine Spectator Magazine (online database)
• Six common sensory keywords of red wines with over 10% frequency from the tasting notes: Cherry, Spice, Tannin, Currant, Finish, Berry
• Control variables include:
  ▪ Wine Spectator score
  ▪ Years of aging before commercialization
  ▪ Number of cases produced
  ▪ Five regions of production
  ▪ Label indicating “reserve”
  ▪ Vintage

PRICE SEGMENTS

Categories (under SSE criterion)

<table>
<thead>
<tr>
<th>Category</th>
<th>Definition</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low price (commercial) wines</td>
<td>price less than $13</td>
<td></td>
</tr>
<tr>
<td>Lower mid-range (semi-premium) wines</td>
<td>price between $13 and $21</td>
<td></td>
</tr>
<tr>
<td>Higher mid-range (premium) wines</td>
<td>price between $21 and $40</td>
<td></td>
</tr>
<tr>
<td>Fine (ultra-premium) wines</td>
<td>price greater than $40</td>
<td></td>
</tr>
</tbody>
</table>

RESULT

<table>
<thead>
<tr>
<th>Variable</th>
<th>Pooled</th>
<th>Segmented</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adjusted R^2</td>
<td>0.61</td>
<td>0.89*</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Variable</th>
<th>Pooled</th>
<th>Segmented</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>29.90***</td>
<td>16.54***</td>
</tr>
<tr>
<td>Cherry</td>
<td>-0.003</td>
<td>0.022</td>
</tr>
<tr>
<td>Spice</td>
<td>-0.036***</td>
<td>-0.009</td>
</tr>
<tr>
<td>Tannin</td>
<td>0.061***</td>
<td>0.003</td>
</tr>
<tr>
<td>Currant</td>
<td>-0.005</td>
<td>0.022</td>
</tr>
<tr>
<td>Finish</td>
<td>-0.004</td>
<td>-0.007</td>
</tr>
<tr>
<td>Berry</td>
<td>-0.020*</td>
<td>-0.014</td>
</tr>
<tr>
<td>Control</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Note: Standard errors are presented in parentheses * p<0.1 ** p<0.05 *** p<0.01
* Calculated stacking the segmented datasets in a single (block diagonal) design matrix and estimating the segmented hedonic model all at once, with a single constant.

EMPIRICAL MODEL

\[
\ln(Price_i) = \alpha_0 + \alpha_1 \text{Cherry}_i + \alpha_2 \text{Spice}_i + \alpha_3 \text{Tannin}_i + \alpha_4 \text{Currant}_i + \alpha_5 \text{Finish}_i + \alpha_6 \text{Berry}_i + \alpha_7 \text{Control}_i + \varepsilon_i
\]

CONCLUSION

• Wine consumers value differently tasting note contents in different price categories.
• Spice and berry sensory characteristics have a negative significant effect on the price of wines, but the tannin sensory characteristic has a positive significant effect on the price of wines.
• Tannin sensory characteristic could increase the values of wines, especially for upper class (premium and ultra-premium) wines.
• A wine producer could benefit from these tasting terms that are specific and provide summary information, to maximize its profit margin.

REFERENCES