Does passion for wine matter? The effects of owner motivation in non-traditional wine regions

Jie Li
Graduate student
Charles H. Dyson School of Applied Economic and Management
438 Warren Hall
Cornell University
E: jl2522@cornell.edu

Miguel I. Gómez
Ruth and William Morgan Assistant Professor
Charles H. Dyson School of Applied Economic and Management
340D Warren Hall
Cornell University
E: mig7@cornell.edu
P: 607.255.8159


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**Introduction**

Rapid growth of wineries in non-traditional wine regions

- The number of small and medium-sized wineries has increased substantially in recent years in non-traditional wine regions (Wine Institute 2013).
- This entrepreneurial activity has important economic impacts and fosters economic development in rural areas.

**Challenges facing wineries in non-traditional regions**

- As the wineries grow, they need to sell through mainstream distributors to access non-local markets, therefore it is important for them to build relationship with distributors and wholesalers.

**Research question**

How does owner motivation affect winery pricing and quality decisions in non-traditional wine regions?

**Theory**

Following Morton and Podolny (2002), a dual maximization problem is developed:

\[
\begin{align*}
\max & \quad U(p, s) = g(q) + h(t) + q(p, s) \cdot p - C(q(p, s), s, t) \\
\text{subject to } & \quad p > p_t \\
\end{align*}
\]

(1)

- Utility maximizing winery owners:

\[
\max U(p, s) = q(p, s) \cdot p - C(q(p, s), s, t)
\]

(2)

- Profit maximizing winery owners:

\[
\begin{align*}
q(p, s) & = g(q) + h(t) + (p - C(q(p, s), s, t))p \\
\end{align*}
\]

- $q$ represents wine quality.
- $p$ is wine price.
- $C(q(p, s), s, t)$ captures the utility gained by owners from wine production activities and the associated lifestyle.

Under certain assumptions, the supermodularity of this utility function for utility maximizing owners indicates that:

\[
\begin{align*}
& \frac{\partial U}{\partial p} > 0 \\
& \frac{\partial U}{\partial q} > 0
\end{align*}
\]

- The more passion-oriented the owner is, the higher the quality of the wines he/she produces.

**Hypotheses**

- Passion-oriented owners tend to produce higher quality wines, and to set higher quality-adjusted wine prices, compared with their profit-oriented counterparts.

- Profit-oriented owners are likely to select strategies geared towards lower quality wines and to set lower quality-adjusted prices.

**Data and model**

**Data**

- Survey data
- 244 surveys mailed in May-June 2011 to winery owners in New York, Missouri, and Michigan. 102 complete responses received (42% response rate)
- Includes: owner motivation to enter the industry and winery characteristics
- Secondary data—Brand wine quality score and price data
- Wine Spectator: 302 wine brands (quality rating score, price, varietal, vintage and appellation) from 16 wineries.
- Cellar Tracker: 702 wine brands (quality rating score, varietal, and vintage) from 62 wineries.

**Empirical models**

- Principal components factor analysis to identify the owner’s motivation, denoted as $F_1$ (passion-oriented factor score) and $F_2$ (money-oriented factor score).
- Regression analysis on quality choice model and price choice model at both winery level and brand level.

**Quality Choice Model**

- Winery level:
  
  \[
  \text{Winery Quality Score} = \alpha_1 + \alpha_3 F_1 + \alpha_2 F_2 + \alpha_4 \text{Winery Size} + \alpha_5 \text{Percentage of Wines Bottled as Varietal} + \alpha_6 \text{Percentage of Estate-grown Grapes} + \alpha_7 \text{State Dummy Variables} + \epsilon_1
  \]

- Brand level:
  
  \[
  \text{Brand Quality Score} = \beta_1 + \beta_3 F_1 + \beta_2 F_2 + \beta_4 \text{Winery Size} + \beta_5 \text{Percentage of Wines Bottled as Varietal} + \beta_6 \text{Percentage of Estate-grown Grapes} + \beta_7 \text{State Dummy Variables} + \epsilon_2
  \]

**Price Choice Model**

- Winery level:
  
  \[
  \text{Average Winery Price} = \gamma_1 + \gamma_3 F_1 + \gamma_2 F_2 + \gamma_4 \text{Winery Quality Score} + \gamma_5 \text{Winery Size} + \gamma_6 \text{Percentage of Wines Bottled as Varietal} + \gamma_7 \text{Percentage of Sales Occurred within the State} + \gamma_8 \text{Owner’s Experience in Winemaking} + \epsilon_3
  \]

- Brand level:
  
  \[
  \text{Brand Price} = \delta_1 + \delta_3 F_1 + \delta_2 F_2 + \delta_4 \text{Brand Quality Score} + \delta_5 \text{Winery Size} + \delta_6 \text{Percentage of Wines Bottled as Varietal} + \delta_7 \text{Percentage of Sales Occurred within the State} + \delta_8 \text{Owner’s Experience in Winemaking} + \delta_9 \text{Winery Size} + \epsilon_4
  \]

**Results**

**Hypothesis Testing**

- Does passion for wine matter? The effects of owner motivation in non-traditional wine regions

**Empirical Models**

- **Quality Choice Model Estimation Results**
  - Winery level (Tobit model , N=81)
    
    \[
    \begin{array}{l}
    \text{Dependent variable: Brand Quality Score} \\
    \text{Coefficients} & \text{Marginal effects} \\
    \hline
    \text{Passion factor} & 3.621*** & 1.690*** \\
    \text{Profit factor} & -2.062** & -0.961* \\
    \end{array}
    \]

- **Price Choice Model Estimation Results**
  - Winery level (N=83)
    
    \[
    \begin{array}{l}
    \text{Dependent variable: Average winery rating} \\
    \text{Coefficients} & \text{Marginal effects} \\
    \hline
    \text{Passion factor} & 4.017*** & 2.182*** \\
    \text{Profit factor} & -0.541* & -0.581* \\
    \text{Winery size} & 1.332 & 1.720** \\
    \text{Vintage dummy} & 0.039 & 0.038 & 0.275 \\
    \text{Appellations dummy} & 0.002 & 0.002 & 0.002 & 0.002 \\
    \end{array}
    \]

**Survey data**

- 244 surveys mailed in May-June 2011 to winery owners in New York, Missouri, and Michigan. 102 complete responses received (42% response rate)
- Includes: owner motivation to enter the industry and winery characteristics

**Data Sources**

- Wine Spectator: 302 wine brands (quality rating score, price, varietal, vintage and appellation) from 16 wineries.
- Cellar Tracker: 702 wine brands (quality rating score, varietal, and vintage) from 62 wineries.

**Price Choice Model Estimation Results**

- **Brand level (Wine Spectator database, N=233)**
  - **Dependent Variable: Log average winery price**
    
    \[
    \begin{array}{l}
    \text{Coefficients} & \text{Marginal effects} \\
    \hline
    \text{Passion factor} & 0.008** & 0.009** \\
    \text{Profit factor} & -0.174*** & -0.416** \\
    \text{Winery size} & 0.000 & 0.000 \\
    \end{array}
    \]

**Conclusion**

- The results confirm the hypothesis that owner motivation (profit-oriented versus passion-oriented) could lead to different wine pricing and quality decisions.
- Passion-oriented owners tend to produce higher quality wines and charge higher quality-adjusted wine prices.
- Profit-oriented owners are less likely to produce higher quality wines and tend to set lower quality-adjusted prices to target lower-end market.
- Quality-adjusted wine prices will decline as the winery grows larger in utility maximizing wineries.