Issues

• Where grapes are grown does affect the grape qualities
• But HOW the grapes are grown and HOW the wine is made also affects grape qualities
• Appellations of origin allow producer differentiation
• Do AOs encourage or discourage wine consumption?
Topics

• Climate/Variety interaction
• Appellation development
• Cultural practices and grape composition
• Appellation vs. Varietal labeling
• The consumer response
Columella on Wine

• “But when our interest is in the wine. . . A vine. . . though only moderately fruitful should be our choice, if only we have a piece of ground where the flavor of the wine is distinguished and costly; for if it is of poor quality or low in price, it is best to plant the most prolific vines so that our revenue can be increased by the greater quantity of the yield.” Columella 50 A.D.
Climate Effect on Grape Composition
(assuming a climate with sufficient heat to fully ripen the grapes)

<table>
<thead>
<tr>
<th></th>
<th>WARMER</th>
<th>COOLER</th>
</tr>
</thead>
<tbody>
<tr>
<td>SUGAR</td>
<td>higher</td>
<td>lower</td>
</tr>
<tr>
<td>ACID</td>
<td>lower</td>
<td>higher</td>
</tr>
<tr>
<td>COLOR</td>
<td>lower</td>
<td>higher</td>
</tr>
<tr>
<td>FLAVOR</td>
<td>lower</td>
<td>higher</td>
</tr>
<tr>
<td>YIELD</td>
<td>higher</td>
<td>lower</td>
</tr>
<tr>
<td>VALUE</td>
<td>LOWER</td>
<td>HIGHER</td>
</tr>
</tbody>
</table>
Map of California Grape-Growing Climate Regions

Amerine & Winkler, *Hilgardia*, 1944
Using PCA to describe regional characteristics in Pinot noir
A Short History of Wine Appellation Development

• 1395 Philippe the Bold bans Gamay in Burgundy
• 1716 Region of Chianti defined (Cosimo III de Medici)
• 1756 Douro valley defined
• 1757 Tokaj region defined
• 1855 Bordeaux classification
• 1908 Champagne region defined (riots 1910, 1911)
• 1935 INAO created resulting in two types of wine
  – VCC wine without appellation
  – AO wine with appellation
VCC vs. AOC

• Vin for Current Consumption (now referred to as “Table Wine”)
• Cannot bear vintage or location of origin
• Government sets price
• Government sets volume allowed in the market
• Government is buyer of last resort

• Appellation d’Origine Contrôlée
• Wine bears appellation
• Regional groups define boundaries
• Regional groups define production controls and typicity
• Govt. support with marketing but no govt. support of price
What is Controlled in Controlled Appellations?

Production requirements generally include:

Grape Varieties allowed
Grape (wine) yield (< X)
   Pruning or actual yield
Irrigation (generally not allowed)
Grape sugar at harvest (> X)
Typical flavor

Although generally explained as an attempt to assure “quality”, the practical result is restriction of amount of wine produced.
Effects of Cultural Practices: Sauvignon Blanc Case Study

• S.B. is an aromatically intense variety
• Several chemical compounds are responsible for the herbacious (cut grass/green pepper) aroma
• Methoxypyrazine is one such compound
  – Degraded by heat and light
  – 40 ppb a lot, 10ppb a little
Low vs High Vigor Canopy
The Sumner Vineyard

Sauvignon Blanc

Clay Soil  Sandy  Clay Soil

Old Creek Bed
Management effects on SB

**Clay Soil**
- Holds more water
- More vigorous canopy shades the grapes
- More Methoxypyrazine
- Produces “grassier” wine
- Can reduce this by more light penetration
  - Divided canopy
  - Less irrigation
  - Pull leaves

**Sandy and Gravely**
- Holds less water
- Less vigorous canopy with more sun exposure
- Reduces Methoxypyrazine
- Produces less “grassy” wine
- Can increase this by
  - More irrigation
  - Trellising system with more shading
HOW the wine is made is also a factor

• How grapes are picked?
• Selection?
• Type of crushing?
• Type of fermentation vat?
• Heating, pumping and pressing?
• Aging in barrels?
• Fining and filtering?

• “It may be tempting to conclude that wine-making technology has become so sophisticated that it can completely shade the effect of terroir and that vines can be grown in almost any place, as long as weather permits and the right combination of vines is made.” Gergaud and Ginsburgh
  “Natural endowments...Does Terroir Matter?”
How grapes are grown and how the wine is produced may be more important than where the wines are produced.

In 1976, two new Napa Wineries, Stag’s Leap Wine Cellars and Chateau Montelena “beat” the best French Wines in a tasting in Paris held to commemorate the bicentennial.

Experts are often confused when asked to taste a wine “blind” and identify the wine’s origin. What should normal consumers expect?
In some markets, varietal labeling has been equated with quality. It is certainly easier than memorizing AOCs.

**U.S. Wine Market**

- **1987**
  - 76% Generic
  - 109.2M Cases

- **2005**
  - 74% Varietal
  - 220 M Cases
In the past 25 years, the “old world” has lost export share to the “new world”

<table>
<thead>
<tr>
<th>Area</th>
<th>Percent 81/85</th>
<th>Percent 2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 E.U. countries</td>
<td>75.6</td>
<td>62</td>
</tr>
<tr>
<td>The “new world”</td>
<td>1.6</td>
<td>28</td>
</tr>
<tr>
<td>“Other”</td>
<td>22.8</td>
<td>10</td>
</tr>
</tbody>
</table>

Note: Share of wine exported, NOT total wine produced. OIV Data

Varietal labeling, fruit-forward wine, and strong branding have been a perfect combination for new consumers and for supermarkets
## 2005 U.K. Wine Sales

<table>
<thead>
<tr>
<th>Country</th>
<th>Percent Volume</th>
<th>Percent Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>21</td>
<td>25</td>
</tr>
<tr>
<td>France</td>
<td>14</td>
<td>20</td>
</tr>
<tr>
<td>United States</td>
<td>12</td>
<td>9</td>
</tr>
<tr>
<td>Italy</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td>Spain</td>
<td>9</td>
<td>7</td>
</tr>
<tr>
<td>South Africa</td>
<td>8</td>
<td>6</td>
</tr>
<tr>
<td>All Others</td>
<td>36</td>
<td>21</td>
</tr>
</tbody>
</table>

Source: US FAS Attache Report
The attraction of appellation

- France—330+
- U.S. –170+ since 1980
- Australia—110+
- “for firms... to rise from the flat plains of perfect competition to the foothills of monopolistic competition is a major transformation”
  T. Josling “What’s in a Name?”
What is an AVA?

• **American Viticultural Area**
• Created by Federal Government in 1980
  – Public hearings, is supposed to be distinctive
• If used on label, 85% of the grapes used in the wine must come from the AVA
• Primarily a geographic description—no controlled aspects as in French AOC
  – Ohio River Valley > 10,000 hectares
  – Cole Ranch < .1 hectare
Napa Valley AVAs

Proposed new AVAs

- Pope Valley
- Capell Valley
- Wooden Valley
- Soda Canyon
- Prichard Hill
- Hennessey Ridge
- Conn Valley
- Suscol
- Tulocay
Overlapping AVA’s in Sonoma County

A little bit confusing?

©1996 Culinary Institute of America, Stevel Kolpan, Brian Smith, Michael Weiss
2006 Wine Market Council Data

Who consumes alcohol and how much?

- NonDrinkers: 38.8%
- Core: 17.4%
- Marginal: 17%
- Beer/Spirits: 26.8%

Only 34.4% of adults in the U.S. drink wine.
“Core” consumers (1+ a week) averaged 58 liters of wine

Per Capita Liters Consumption by Group

18% consume 92% of all wine

Wine Market Council 2006 data
Wine consumers by type:
Constellation Genome Project 2005

- **ENTHUSIASTS**
  - Share of Consumers: 12%
  - Share of Purchases: 25%

- **IMAGE SEEKERS**
  - Share of Consumers: 20%
  - Share of Purchases: 24%

- **SAVVY SHOPPERS**
  - Share of Consumers: 15%
  - Share of Purchases: 24%

- **TRADITIONALISTS**
  - Share of Consumers: 16%
  - Share of Purchases: 15%

- **SATISFIED SIPPERS**
  - Share of Consumers: 14%
  - Share of Purchases: 15%

- **OVERWHELMED**
  - Share of Consumers: 23%
  - Share of Purchases: 13%
Constellation’s Project Genome

OVERWHELMED: 23%

“There are so many wines on the shelves; it’s so confusing. First I try to read the labels, then I’m more confused; so, I call over someone who works there to help.”

Overwhelmed:
- Find shopping for wine complex and worry about making a mistake
- They don’t know what wines go with what foods and they don’t feel comfortable ordering wine in a fine restaurant
- Are not likely to remember names so they just shop based upon the label: fun ones and sophisticated/traditional ones
- Are VERY open to advice

Surprise Fact: They tend to buy the first thing that catches their eye and are not loyal to any brand.

Differentiating Need: Good shelf description or retail/wait staff recommendations play a key role in the purchase decision.

70% female
Average age 44
Lower income ($51K)
47% college degree
1.7 glasses wine per week
Concluding thoughts

• Geographic Indicators give groups of firms the opportunity to differentiate themselves.
• It is unlikely that wines from one G.I will possess unique flavor profiles.
• It is unlikely that G.I.s are better indicators of what a wine will taste like than are brand and varietal labels (or price).
• The proliferation of G.I.s is of interest to some consumers and is confusing and intimidating to others.