The China Wine Economy

For Presentation at
Competitive Forces Affecting the Wine and Winegrape Industries: An International Conference on World Wine Markets

Davis, California August 10, 2007

Jikun Huang, Scott Rozelle and
Daniel A. Sumner

Center for Chinese Agricultural Policy, Stanford, University, University of California Agricultural Issues Center and Department of Agricultural and Resource Economics, UC Davis
Goal: Where is the China wine economy, what is driving it and where is it heading?

Supply and demand facts: (Part of the horticulture industry)

✓ Supply
  • Competitiveness
    – Changing efficiency
  • Economic Drivers
    – Food Security Policies
    – Getting the wine grapes to the winery
    – China wine

✓ Demand in China
  • Economic Drivers
  • Supermarkets wine marketing for domestic and imports

➢ Implications for Wine Economy Outside China
Table and Wine Grapes --
China Area Trends, 1985-01 (1000 ha)

About 600,000 acres in 2001
China’s Wine Grape Economy

Location of Main Production Provinces

= wine grape producing sites in sample
## Typical winegrape growing household in China, 2005

<table>
<thead>
<tr>
<th>Household characteristics</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>HH size</td>
<td>(person)</td>
<td>4.4</td>
</tr>
<tr>
<td>Age of HH head</td>
<td>(year)</td>
<td>42 (male)</td>
</tr>
</tbody>
</table>

### Education and training

| Education of HH head       | (year) | 7  |
| Share of HH head with ag extension training | (%) | 50 |

### Off-farm job

| Share of HH head who has off-farm jobs (in factory) | (%) | 20 |
| Share of household head who has off-farm jobs (self employed) | (%) | 25 |

### Assets:

| Farm equipment          | (US$) | 402 |
| Housing                | (US$) | 7882 |
## The typical wine grape growing farm in China, 2005

<table>
<thead>
<tr>
<th>Farm Characteristic</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Farm size (acre)</td>
<td></td>
<td>1 acre</td>
</tr>
<tr>
<td>Distinct Plots (number)</td>
<td></td>
<td>5 plots</td>
</tr>
<tr>
<td>Number of crops (diversification)</td>
<td>(number)</td>
<td>3 crops</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ownership and Control</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Contracted from “collective” (%)</td>
<td></td>
<td>96</td>
</tr>
<tr>
<td>Rented from other farmer (%)</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>Share of area decided by farmer (%)</td>
<td></td>
<td>94.2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Labor</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Own Labor Days / Acre (mandays)</td>
<td></td>
<td>312</td>
</tr>
<tr>
<td>Hired Day / Acre (mandays)</td>
<td></td>
<td>42</td>
</tr>
<tr>
<td>Wage (US$/day)</td>
<td></td>
<td>3.2</td>
</tr>
<tr>
<td>Description</td>
<td>Unit</td>
<td>Cost</td>
</tr>
<tr>
<td>-----------------------------------</td>
<td>-----------</td>
<td>------------</td>
</tr>
<tr>
<td>Fertilizer cost</td>
<td>U.S.D/acre</td>
<td>187.99</td>
</tr>
<tr>
<td>Organic fertilizer cost</td>
<td>U.S.D/acre</td>
<td>223.41</td>
</tr>
<tr>
<td>Chemical cost</td>
<td>U.S.D/acre</td>
<td>109.52</td>
</tr>
<tr>
<td>Hired labor cost</td>
<td>U.S.D/acre</td>
<td>63</td>
</tr>
<tr>
<td>Machine cost</td>
<td>U.S.D/acre</td>
<td>38.4</td>
</tr>
<tr>
<td>Other costs</td>
<td>U.S.D/acre</td>
<td>274.79</td>
</tr>
<tr>
<td>Own Labor</td>
<td>U.S.D/acre</td>
<td>538.00</td>
</tr>
<tr>
<td>Total Cost</td>
<td>U.S.D/acre</td>
<td>1435</td>
</tr>
<tr>
<td>Output</td>
<td>Lbs/acre</td>
<td>16928</td>
</tr>
<tr>
<td>Revenue</td>
<td>U.S.D./acre</td>
<td>2298</td>
</tr>
</tbody>
</table>
Waiting to loading delivery to Great Wall Winery, 100 miles North of Beijing
The offices, much fancier than the winery itself which was just across the lawn.
Contract growers who deliver to “Great Wall” Winery, (not a typical group)

- Range from 1 acre to 2.5 acres
- 6 tons to the acre low yield in 2005
- $500/ton, but very high in 2005 because of small crop and more buyer competition
- One main buyer in the region, but some new wineries competing for grapes recently
- Long term contracts with some growers, but some flexibility
- Grape farmers with contracts consider themselves very fortunate, many farmers live on one acre of corn or rice, grapes make a lot more money, but costs are high too
Growers do not deliver themselves, but have men who represents them at the winery delivery point. Remember, Labor is Cheap!
The Delivery Region

• Hired labor for harvest on the bigger farms
• Water and electricity are not big costs, flood irrigate from wells (250 feet)
• Land belongs to village (1000 farms)
• Winery tests brix and decides when to harvest
• Winery provided rootstock
• Price varies inversely with area yields
• Asked about relationships with winery, “They have to keep growers satisfied to keep our grapes”
Survey Data Suggests the “Great Wall growers are a special case

For horticulture and most winegrapes

When asked growers if buyer reps. dictated their application of fertilizers and pesticides, the most common answer was:

– A laugh … a pause (as if they did not understand the question) … and then: “of course not … how could they?”
– Main reason? almost certainly a big reason is that the monitoring and coordination effort of doing so for millions of farmers with 1/2 acre vineyards and orchards are almost inconceivable
Supply Side Summary

- China’s agriculture has been transforming at an incredible rate … more open; more towards comparative advantage; more efficient
- China has potential to continue growing in this direction
- Biggest advantage in low production costs of labor intensive commodities

- Shift to horticulture production includes shift to wine grapes and wine making

- Will it continue? This is largely driven on the domestic demand side.
Marketing: from the vine to the winery

Consider recent survey data
Market distribution with province
Location of Study’s Sample Sites

Greater Beijing Area

○ = other major horticulture sites
All towns, villages and farmers randomly selected ... interviewed farmers / village leaders

Distance from one side of largest circle to the other is about 170 miles (from Sacramento to Fresno / Half Moon Bay to Turlock)

5 circles x 10 towns per circle x 4 villages per town = 200 villages
Who might be procuring the Fruits and vegetables?

- Supermarkets / Coops
- Processing Firms (e.g., wineries)
- Professional Supply Firms (on contract to exporters / supermarkets / hotels / restaurants)
- Consumers (bought by companies for distribution to their employees)

Who dominates this business

- Small traders
  [2 to 6 people working together / No warehouse; no office; no license; often no transport / Pay cash on the spot / From Henan; Hubei; Anhui / Poor (will work for $2-3/day)]
Grape marketing chain in China

Grape growers → Small Traders → Wineries

Small Traders: >50%
Wineries: >10% & < 30%
Direct purchase by wineries: <10%

Data Source: authors’ survey
Implications for supply chains

• Can small wine grape growers who sell to small wine grape traders supply a quality and consistent product to an world class industry?

• Small / low cost/ fragmented / unorganized marketing channels …

[But, remember if there is a demand, low cost suppliers will be able to do a lot for a little]
Great Wall Winery: Large, with a wide quality range

• Owned by a government company that used to just be the big grain exporter. Now invested in Shanghai real estate and everything else too.

• Odd mixture of old and new. Some careful management together with a mess of sloppy procedures and lack of basic cleanliness.

• Website says winery tours, but no one at the winery seems to know that… and finding the winery takes a dozen stops to ask directions.

• Based in a town much like Modesto.
Grower tag with grower name and number date, weight, brix, other data

<table>
<thead>
<tr>
<th>单据编码</th>
<th>姓名</th>
<th>葡萄品种</th>
<th>噪音(公斤)</th>
<th>重量(公斤)</th>
<th>损耗(公斤)</th>
<th>净重(公斤)</th>
<th>金额(元)</th>
</tr>
</thead>
<tbody>
<tr>
<td>20050000132</td>
<td>张伟</td>
<td>苏果乐</td>
<td>120</td>
<td>4501</td>
<td>0</td>
<td>4501</td>
<td></td>
</tr>
<tr>
<td>葡萄品种</td>
<td>1146</td>
<td>1209</td>
<td>1079</td>
<td>1067</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

操作员
Old storage tanks
Proud of oak cooperage, not clear how much wine goes through such aging.
What drivers will shape the future of the wine grape demand in China?

FORCES:

– Rising demand?
– Rise of supermarkets?

[Rise of restaurant culture?]
Rising urban middle class
Westernizing
Fruit Consumption: Difference in Rural vs. Urban

- Biggest consumption push will come over the next 10 to 20 to 30 years when hundreds of millions of rural residents migrate to the city …
- … and then consume like them!
Growth of Wine Consumption, Looks big and fast growth, but wait!

Index (1990 = 100)

1990 2004

100 980
Comparisons with the Rest of the World: Great growth potential because it is starting from just about nothing!

Liters per capita

- US
- France
- China
“Expensive” wine is a gift item, not a consumer good.
Per Capita Wine Consumption, in China, Japan and Other NE Asia*. 1991-01

* Includes Hong Kong, Korea and Taiwan. Source: Anderson and Norman, 2003
Total Wine Consumption in China and Japan 1991-2001, in Million Liters

Source: Anderson and Norman, 2003
But, What is Chinese wine?

• Maybe only 5% Chinese grapes
• Maybe half sugar, rice or other stuff

Some new regulations, but no one thinks they are enforced.

Official data is “problematic”
Wine growth factor in addition to rising incomes

Rise of supermarkets: Increasing stores and growth has continued at this pace since 2002

20 to 30 percent annual growth between 1998 and 2002
What does this mean?

- Theory: supermarkets will go to those that will produce a standard, safe produce with a great deal of reliability (at a reasonable price) …
  - Response worldwide: work increasingly with large, well-managed growers … often larger, well-educated producers …

- Can China’s small, poor farmers and China’s wineries do this?

[If not, who will? An alternative: imports!!!]
Exports of US wines to China… still a tiny market

Thousands US dollars

Data source: FAS trade data

Mostly bottled … bulk wine exports actually fell
A closer look at China’s supermarkets and wine demand

• The Survey

• Wine and China’s Supermarkets

• Selling California Wine
Symbols: * = small city  ** = medium-sized city
*** = large city  **** = mega-sized city
Number of Stores in Survey, by Type, N=61

- Hypermarket, 22
- Convenience store, 10
- Small, 15
- Medium, 7
- Large, 7
Supermarkets and Foreign Wine

Percentage of Stores that Carry Foreign Wines

- Average: 51%
- Hypermarket
- Large
- Medium
- Small
- Convenience store
Foreign wines now account for 21% of total wine shelf space.
California and Foreign Competitors

31/61 surveyed stores had foreign wine

California wines are in only half the stores that carry foreign wines.
California wine accounts for 7 to 8 percent of foreign wine shelf space.
<table>
<thead>
<tr>
<th>Characteristics</th>
<th>“Beiguo Shopping Center”</th>
<th>“Next Mall”</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Format</strong></td>
<td>Medium</td>
<td>Large</td>
</tr>
<tr>
<td><strong>City</strong></td>
<td>Shijiazhuang, Hebei</td>
<td>Nanjing, Jiangsu</td>
</tr>
<tr>
<td><strong>Income level of neighborhood</strong></td>
<td>Relative high</td>
<td>Relative high</td>
</tr>
<tr>
<td><strong>Domestic wine space</strong> (m)</td>
<td>50</td>
<td>37</td>
</tr>
<tr>
<td><strong>Foreign wine space</strong> (m)</td>
<td>2</td>
<td>8</td>
</tr>
</tbody>
</table>
Quality of Chinese why and quality per unit of price?

- China “high end” wine sells (a little) for $20 to $30 per bottle.
- Quality is roughly equal to a $5 bottle of California wine.
- Cheap Chinese wine is not an acceptable product.
- But, quality of everything in China is rising quickly.
- 10 years ago all decent economic analysis had to be imported, now some Chinese institutes compete well in that market too.
China Wine Prices:
High (90th percentile), Median and Low (10th percentile)

RMB / bottle

Domestic wine: 95 RMB (11$), 43 RMB (5$), 18 RMB (2$)
Other foreign wine: 89 RMB (11$), 62 RMB (8$), 59 RMB (5$)
California wine: 143 RMB (17$), 111 RMB (14$)
Promotions of wines in supermarkets

Percent of stores that carry domestic/foreign wines

- Domestic Wines
- Foreign Wines

- France
Types of promotions

- Discounted prices
- Buy one / get one free
- Buy one (wine) / get partner product free (one favorite: "Red Bull")
- Wine tasting
- Can enter prize drawing

Of stores that carry California wine, percent that have special sales promotions: ZERO
Average Promotion Discounts for Wine by Store Type
(mostly given by domestic wineries)
Key person in the promotion game: Wine department “manager” or “sales person”

- More than half of med/large/hyper stores had at least one person assigned 100% of time to the wine department
- Very low level of knowledge (but higher than average consumer)
- Their knowledge of geography / history is worse (which has implications for selling US wines)
Implications

• Small farmers / small traders still dominate
  – Market signals pass directly to farmers (fast)
  – Not very capable to implement or enforce standards/quality product

• With rise of supermarkets / Emergence of “more sophisticated” wine culture / new demand for higher quality product

• Key question: Will China respond? Can they respond? If not, there is huge opportunity in China’s markets for imports