Locational dynamics of Brazilian winegrowing: new regions in Rio Grande do Sul and in the São Francisco River Valley

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1. Introduction

• Winegrowing: a recent activity in Brazil

• Brazilian wine production has expanded over the last decade:
  • has increased from 200 million liters in 1990 to 272 million liters in 2005

• Small producer: 1.2% of world production

• Brazil is a net importer of wines

• Preparation of wines is divided into fine and regular
  • Regular: American or hybrid grapes
  • Special: European grapes

• Recently the national production has become better known in the international market

• Consumption per capita: 1.9 liters a year
Figure 1. Evolution of wine production (million liters)
Figure 2. Imports and Exports of wine in Brazil (million liters)
1. Introduction

- Rio Grande do Sul: the most important wine producing state
- Accounts for about 90% of domestic wine production
  - Serra Gaucha: main winegrowing region in the country
  - Winegrowing activity has been going on in Serra Gaucha region since Italian immigrants arrived there in 1875
- Climate is almost the same as Europe
- In the 70’s happened the entrance of multinational companies
1. Introduction

Serra Gaucha

• More than 600 wine related establishments:
  • Wineries
  • Rural cantines
  • Grape growers cooperatives
  • Study and research organization
  • Federal Technological Education Centers
  • Handling and shipping industries, distribution channels infrastructure
1. Introduction

• In spite of the number of improvements in that region, there has been a locational change in Brazilian winegrowing outside the traditional region.

• The expansion has spread both inside and outside the state:

  ✓ São Francisco River Valley - Bahia and Pernambuco states

  ✓ Campanha e Serra do Sudeste regions - Rio Grande do Sul state
1. Introduction

Over the period from 1990 to 2005

• The area planted with grapevines in Brazil increased by 24.6%
  – From 145,208 acres to 180,935 acres

• The accumulated expansion was:
  – 10.1% in South Region
    • From 117,359 acres to 129,178
  – 395.3% in Northeast Region
    • From 4,346 acres to 21,529 acres
Brazilian production locations: traditional and new regions

Source: Academia do Vinho (2005)
RS: most important wine-producing state

Source: Academia do Vinho (2005)
São Francisco valley: main tropical wine producing region in the country

Fonte: Academia do Vinho (2005)
Sierra Gaúcha
Campanha
Vale do São Francisco
2. Research Question

Why new winegrowing centers are emerging in Brazil even with all benefits that have accrued from the geographic concentration in the traditional region?
3. Hipothesis

In wine production process it is believed that raw materials – more specifically grapes - are an important force that is attracting the wineries.
4. Objective

To identify the locational factors that have influenced the decisions about investments in the winemaking activity to new areas.
7. Proposed Model

Locational decision in the agro-industry = function

- Raw materials
- Labor force
- Infrastructure
- Regional development policies
- Tax incentives
- Environmental issues
- Transport costs
- Distance from the consumer market
- Business owner’s personal preferences
- Family ties

Bowersox (1978)
Bowersow and Closs (1996)
Carlos (2000)
8. Methodology

Data

• Direct Interviews were done with wine producers, to identify the factors that drove them to the decided location


• Owners or managers in charge of the decision of the industry locational process

• The Survey focused:

  ➢ On wineries with new investments outside their traditional region

  ➢ On the new comers that invested directly in the new winegrowing regions (the Northeast Region of Brazil, Serra do Sudeste and Campanha in Rio Grande do Sul)

8. Methodology

Target Population

15 wineries with investments in new regions

\[\rightarrow\]

9 Rio Grande do Sul

\[\rightarrow\]

6 Vale do São Francisco

Sample range: of these 15 wineries, we talked to 11, which represente 73,3% of the population

⇒ The companies interviewed in this survey were responsible for 70,4% of the total produced in the new regions in the South and Northeast of the country
9. Main Results

Characteristics of the 11 companies interviewed:
✓ 10 investments in new regions were expansions, that is: the companies operated in the winegrowing activity before expanding into new regions
  • 2 invested directly in the new regions and are characterized by foreign investments (one in the São Francisco Valley and other in the Campanha region).
  • These 2 companies belongs to foreign groups that already operated in the winegrowing activity, however in other countries.
✓ 1 company is not characterized as an expansion, but as a “new business” (the partners in this company were employees in the winegrowing industry in the Serra Gaúcha region, but decided to set up their own winery in the São Francisco river valley).
## 9. Main Results

<table>
<thead>
<tr>
<th>Region of Origen</th>
<th>Region of Expansion</th>
</tr>
</thead>
<tbody>
<tr>
<td>• 8 Serra Gaúcha</td>
<td>6 Serra do Sudeste</td>
</tr>
<tr>
<td></td>
<td>1 Campanha</td>
</tr>
<tr>
<td></td>
<td>1 (Serra do Sudeste, Campos de Cima da Serra e Vale do São Francisco)</td>
</tr>
<tr>
<td>11 wineries</td>
<td>1 Campanha (international group)</td>
</tr>
<tr>
<td></td>
<td>2 Vale do São Francisco (1 - international group)</td>
</tr>
</tbody>
</table>
9. Main Results

• Characteristics of the wineries interviewed

➢ Origen of grapes

\[
\begin{align*}
&4 \text{ wineries are vertically integrated;} \\
&3 \text{ wineries grow most of their grapes (around 73%);} \\
&4 \text{ wineries purchase most of the grapes (around 71%);} \\
\end{align*}
\]

➢ Only one winery has formal contract with grape suppliers;

➢ The price of grapes is affected by quality and traceability;

➢ Destination of wine production: 10 wineries sell more than 85% in the national market
9. Main Results

• Question: what were the main reasons to expand activities into new regions

➢ 10 wineries:
  • to obtain grapes with specific qualities (5)
  • to obtain grapes with specific qualities and also to escape from more restrictive environmental rules of the Serra Gaucha (2);
  • To overcome the shortage of grapes (3)

➢ 1 winery: Strategic differential to stand out among its competitors, to escape from more restrictive environmental rules of the Serra Gaucha and also to the high cost of the land that was still available
### 9. Main Results

Factors and variables that influence the locational decision-making process

<table>
<thead>
<tr>
<th>Factor / Variable</th>
<th>Average score</th>
<th>Standard deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1 Raw materials</strong></td>
<td>2.48</td>
<td></td>
</tr>
<tr>
<td>• Grape costs</td>
<td>1.36</td>
<td>1.21</td>
</tr>
<tr>
<td>• Grape quality</td>
<td>2.82</td>
<td>0.60</td>
</tr>
<tr>
<td>• Edaphic and climatic conditions</td>
<td>3.27</td>
<td>0.79</td>
</tr>
<tr>
<td><strong>2 Environmental issues</strong></td>
<td>1.82</td>
<td></td>
</tr>
<tr>
<td>• Problems with expanding in other regions</td>
<td>1.73</td>
<td>1.68</td>
</tr>
<tr>
<td>• Good conditions for future expansion</td>
<td>1.91</td>
<td>0.83</td>
</tr>
<tr>
<td><strong>3 Infrastructure</strong></td>
<td>0.86</td>
<td></td>
</tr>
<tr>
<td>• Infrastructure quality</td>
<td>0.73</td>
<td>0.65</td>
</tr>
<tr>
<td>• Service availability</td>
<td>1.00</td>
<td>0.89</td>
</tr>
<tr>
<td><strong>4 Labor</strong></td>
<td>0.85</td>
<td></td>
</tr>
<tr>
<td>• Wages</td>
<td>0.64</td>
<td>0.50</td>
</tr>
<tr>
<td>• Labor quality</td>
<td>0.91</td>
<td>0.30</td>
</tr>
<tr>
<td>• Labor availability</td>
<td>1.00</td>
<td>0.45</td>
</tr>
<tr>
<td><strong>5 Other factors</strong></td>
<td>0.32</td>
<td></td>
</tr>
<tr>
<td>• Business owner’s personal preference</td>
<td>0.37</td>
<td>1.21</td>
</tr>
<tr>
<td>• Family ties in the region</td>
<td>0.09</td>
<td>0.30</td>
</tr>
<tr>
<td>• Others</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>• Proximity to consumer markets</td>
<td>0.82</td>
<td>0.75</td>
</tr>
<tr>
<td><strong>6 Concession of tax incentives</strong></td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>• State tax incentives</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>• Municipal tax incentives</td>
<td>0.00</td>
<td>0.00</td>
</tr>
</tbody>
</table>

Source: Survey data

Note: 0 - no importance, 1 - little importance, 2 - a lot of importance, 3 - one of the decisive factors and 4 - the only factor involved in the decision-making process.
10. Final Considerations

The main objective of this study was to identify the locational factors that have driven the expansion of the winegrowing activity into new regions in Rio Grande do Sul and in the São Francisco river valley.

- It was shown that the Brazilian winegrowing activity is conditional to the spatial distribution of the productive resources

- Special emphasis to:
  - edaphic and climatic factors,
  - raw material (grape) quality and its supply
  - the business owner’s preferences
  - environmental problems and the cost of available land in the traditional area
Thank you very much for your attention

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5. Theoretical Foundations


✓ The market and the proximity of the source of raw materials can influence the location of an industrial unit.

✓ The decision can also depend on the personal preferences of the owner.

✓ Extraction industries such as farming, mining, and timber industry must be located where there are sufficient raw materials for production.

✓ Perishable materials.
6. Theoretical Foundations

Carlos (2000) - Locational factors

✓ General factors: urbanization of the region, agglomeration, type of industry (polluting or non-polluting);

✓ Regional factors: infrastructure, the services available (water, electrical energy, fuels), communications (transport – railroads, highways, etc. and non-transport – telecommunications, postal service), human resources (population, educational level, specializations), the market (suppliers of inputs and consumers)

✓ Local factors: land costs (historical value), land conditions (slope, transport conditions), environmental issues (industrial waste, atmospheric pollution, acoustic level), micro climate (rain, temperature, humidity, wind), incentives (from the government)