Are today's consumers ready to buy the wines of tomorrow?

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Objectives of the study

- Two main questions:
  - What are the consumers reaction in relation to changes in the sensory characteristics? (Sensory arbitration).
  - What is the expected purchase behavior for new wines from Climate Change? (Economic Arbitration).

In addition, we also want to study and evaluate the “stability of consumer preferences” in different informational situations.

General working hypothesis

- Climate change (CC) may affect the intrinsic and extrinsic characteristics of wines.
- Nowadays, such typical wines do exist. But they reflect strategic choices of modes of production (choice of harvest date, production methods, etc.), influencing the final aromatic nuances of wines.

Climate change could lead to produce mostly such types of wine in near future.

Early Harvest

Optimal Harvest

Late Harvest

Date of harvest

Experimental Design and Method

- The choice of the St Emilion AOC?
  - Grape Merlot particularly concerned by Climate Change.
  - AOC with a strong disparity in production modes, with overripe wines, result of strategic choices of some producers.
  - The “harvest date” is a key factor in the maturation of wines, with a significant impact on certain characteristics of the wine as the alcohol or flavorings.
- Selection of wines from St Emilion AOC using a panel of expert tasters (48 experts). Three wines were selected using the original classification method of Balinski and Laraki (2013).
  - Four wines were used for the experiments. Three wines selected by experts (A, B and C) and a fourth wine modified in their alcohol content from wine A (A').
  - All wines belong to the same vintage 2010 and same classification “Grand Cru”.

<table>
<thead>
<tr>
<th>Wine</th>
<th>Alcohol degree</th>
<th>Aromas of wine</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>14°</td>
<td>Fresh fruit</td>
</tr>
<tr>
<td>B</td>
<td>14,5°</td>
<td>Intermediate Wine</td>
</tr>
<tr>
<td>C</td>
<td>15°</td>
<td>Roasted fruit</td>
</tr>
<tr>
<td>A'</td>
<td>15°</td>
<td></td>
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</tbody>
</table>

Source: Sulzler, M., 2007
Experimental Design and Method

A protocol of Sensory Analysis and Experimental Economics experience is set up with the objective of evaluating consumer preference through hedonic ratings and their willingness to pay (WTP).

Sensory Analysis

- Experimental Economics:
  - Real sales at a random selling price, based on the Becker, DeGroot, Marschak (BDM) mechanism, revealed consumers’ WTP in different information conditions.

The development of the experiment carried out in conditions of increasing information:
- Anchoring effect related to the AOC St Emilion and to the vintage 2010
- Visual evaluation
- Visual evaluation + Olfactory
- Visual evaluation + Olfactory + Taste
- Effect of information “Degree of alcohol”
- Effect of information “Grand Cru”

Results Group 1

“Consumers WTP by wine and by step”

An initial zero WTP which increases with information.
A growing and favorable discrimination for wine B and then for wine C. Non-discrimination for wines A and A’.

Step taste questioning a hierarchy that seemed natural to step smell.
We find again the U-shaped curve.

Group 1: 100 consumers: evaluating preference; evaluated only in laboratory sessions (spontaneous evaluation)

Group 2: 63 consumers: evaluating stability; consumers have made at home blind taste of the wines A and B during the 2 days before the laboratory session (4 tasting), without information about those wines; evaluated in laboratory session and in home-consumption situation with wines A and B (no spontaneous/regular evaluation)

Discrimination is not always systematic.
**Results Group 1**

<table>
<thead>
<tr>
<th></th>
<th>Sight</th>
<th>Small</th>
<th>Taste</th>
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<th>Taste</th>
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<th>Taste</th>
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</thead>
<tbody>
<tr>
<td>B &gt; A</td>
<td>0.13696242</td>
<td>0.07295738</td>
<td>0.21640708</td>
<td>0.25567971</td>
<td>0.21640708</td>
<td>0.25567971</td>
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<tr>
<td>C &gt; A</td>
<td>0.11603138</td>
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<tr>
<td>C &gt; A'</td>
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For wines B and C, the difference becomes significant gradually compared to wines A and A'. In the "Stage taste" this difference is significant.

**Results Group 2**

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<th>Sight</th>
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<th>Taste</th>
</tr>
</thead>
<tbody>
<tr>
<td>A &gt; B</td>
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<td>0.19483946</td>
<td>0.32350884</td>
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<tr>
<td>A &gt; A'</td>
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Even if there is a change in consumer preferences (Wine A > Wine B) observed with the average WTP, this difference is not significant for the group 2.

**Conclusion**

**Main Results**

- The experiment in condition of increasing information shows that there are differences between consumer expectations and their final assessments.
- There are differences between spontaneous evaluation (one shot/Group1) and non spontaneous evaluation (after regular use):
  - Spontaneously, consumers prefer climate change wines (flattering effect) significantly; and they do not locate the rise of 1 degree of alcohol.
  - In a non spontaneously consumption, preferences are mitigated; important parameters (degree of alcohol) are detected.
- We need to analyze reasons why wines are accepted or rejected.
- One of the extensions of this project would be to work on these consumer habits on a larger scale.
- It also requires that we exploit this big database (hedonic score + CAP)
Thank you for your attention

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