Title
Attributes influencing Willingness to Pay for South African Eco-labelled wines

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Conference Presentation

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Keywords
willingness-to-pay ; wine ; eco-labels ; consumer ; South Africa ; sustainable

Research Question
The goal of the research was to identify the attributes influencing the willingness-to-pay for South African eco-certified wine with focus on five different labels.

Methods
An ordered logistic regression model was used to explain the willingness-to-pay for the five different eco-labels from a set of quantitative and qualitative explanatory variables.
Results
The results confirm the importance of consumer profile (gender and age especially) in paying a premium for eco-labelled wines.

Abstract
As eco-certified wines are being produced in increasing quantities and varieties so have the definitions and the labels that accompany them. This resulted in a unclarity with regard to what type of eco-certified wines do customers prefer and what prices they are prepared to pay for them. One major problem associated with the production of these type wines is the need for credibility from the part of the consumers. This is a result of their inability to assess whether the wine production follows the rules required to obtain a certain label. One way of reducing this information asymmetry is the usage of clear labels and other sources that should provide credible information related to the sustainable credentials of the wine (Leire and Thidell, 2005).

Research performed in this field reveals different outcomes regarding willingness to pay (WTP) for certified wines. A study by Bazoche et al. (2008), found in their study of French wine consumers, that wines produced in environmentally sustainable way were valued similarly to any other type of wines. There is also evidence found by Loureiro & Hine (2003) of American consumers who did not show a WTP for environmentally friendly wines due to the perceived lower quality. A different outcome is derived from research on WTP for sustainable Italian wines which indicates that consumers value sustainability attributes of wine positively and show a significantly higher WTP for all included sustainable wines (Pomarici & Vecchio, 2013). Previous research by Mihaiiescu (2015) regarding preferences for organic wine in South Africa indicates a positive relation between income, education levels, and information. The main consensus is that women and younger consumers in general are willing to pay more for sustainable wines (Gow et al., 2020; Lanfranchi et al., 2019; Moscovici et al., 2020; Vecchio, 2013). As research shows the WTP for wine and the extra purchase amount differs from country to country and needs to be carefully interpreted in order to properly inform the producers of the potential revenue increases.

Another major problem associated with sustainable / organic wines is their higher production costs that can reach prices of between 25 and 30% above the costs of more conventionally produced wines (Sellers-Rubio & Nicolau-Gonzalbez, 2016). These production costs can be mitigated by the willingness to pay a premium for the eco-certified wines of those consumers, who see the benefits of less health damaging ingredients and of increasing sustainability of production.

Purpose of the study
A positive willingness to pay acts as a signal to the wine producers for resource allocation towards an increase in production of eco-labelled wines. The goal of the research was to identify the willingness to pay for South African eco-certified wine with focus on five labels: biodynamic, Fairtrade, organic, natural and sustainable. Specifically, the research focuses on measuring and comparing the potential (WTP) for these wines revealed by wine consumers. In this context four hypotheses were formulated based on the literature:

a. An increase in age of the respondents has a negative effect on the WTP for the eco-labelled wines,
b. Female consumers will have a higher WTP for eco-labelled labels,
c. Knowledge of eco-certified labelled wine leads to a higher WTP,
d. Consumers that have previously purchased eco-certified products will have a higher WTP for eco-certified wine.

Method and descriptive statistics.
The research targeted the population of wine consumers in South Africa through the use of an online survey with participants filling in discrete choice questions. The goal of the survey was to get information from a broad sample of wine drinkers, preferably in different ages, genders and incomes. The survey consisted of three sections. The first one focused on the background and habits of the respondent with respect to buying and drinking wine. The second section included questions to gather information on the perspectives and opinions on certifications. Finally, the last section of the survey consisted of questions related to demographics, to get insight on the influence of demographics on the preference for eco-certified wines. The sample size consisted of 210 respondents. For the WTP question respondents could decide between six WTP categories.

Models with categorical dependent variables in the economic literature are predominantly estimated by applying multinominal logit models (Mugas et al., 2002). An ordered logistic regression model was used to explain the “Willingness to Pay” for the five different eco-labels from a set of quantitative and qualitative explanatory variables.

Empirical Results
The results (see Table 1) suggest, that female respondents are more attentive to the eco-labelled wines and willing to pay more than their male counterparts (significant for Organic and Natural labels). The WTP for all eco-labelled wines decreases significantly with age (significant for Fairtrade, Organic and Sustainable labels), which means that younger respondents have a higher probability to pay for a certified wine compared to older respondents. The results further show that the higher the frequency of buying the certified food the higher the willingness to pay for certified wines (significant only for Natural label).

Respondents that put a high importance on the environmental impact of the wine production have a higher WTP across all eco-labelled wines. In the case of Fairtrade, Sustainable and Organic labels, the WTP is higher if these labels were bought before.

Special events has a significant positive impact on the WTP in the case of biodynamic, Fairtrade and Sustainable wines.

Conclusion

The premise of the research was to see if South African consumers show a WTP for eco-labelled wines. This seems to be the case for all eco-labels. The results confirm the importance of consumer profiles, gender and age in particular, in paying a premium. Consumers who have a high preference for certified wines (high importance) show a higher WTP, partly as well those who experienced this kind of wine before. Interestingly income, the average price usually paid for a wine or education don’t play a role.

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Attributes influencing Willingness to Pay for South African Eco-labelled wines

As eco-certified wines are being produced in increasing quantities and varieties so have the definitions and the labels that accompany them. This resulted in a unclarity with regard to what type of eco-certified wines do customers prefer and what prices they are prepared to pay for them. One major problem associated with the production of these type wines is the need for credibility from the part of the consumers. This is a result of their inability to assess whether the wine production follows the rules required to obtain a certain label. One way of reducing this information asymmetry is the usage of clear labels and other sources that should provide credible information related to the sustainable credentials of the wine (Leire and Thidell, 2005).

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**Table 1: Results of the ordered logistic regression for WTP for a certified wine**

<table>
<thead>
<tr>
<th>WTP</th>
<th>Biodynamic</th>
<th>Fairtrade</th>
<th>Organic</th>
<th>Natural</th>
<th>Sustainable</th>
</tr>
</thead>
<tbody>
<tr>
<td>No of bottles purchased /month</td>
<td>0.007</td>
<td>0.036*</td>
<td>-0.006</td>
<td>0.016</td>
<td>0.038*</td>
</tr>
<tr>
<td></td>
<td>(0.020)</td>
<td>(0.020)</td>
<td>(0.020)</td>
<td>(0.019)</td>
<td>(0.020)</td>
</tr>
<tr>
<td>Average price usually paid /bottle</td>
<td>0.005</td>
<td>0.001</td>
<td>0.006</td>
<td>0.009</td>
<td>0.014</td>
</tr>
<tr>
<td></td>
<td>(0.012)</td>
<td>(0.011)</td>
<td>(0.012)</td>
<td>(0.012)</td>
<td>(0.013)</td>
</tr>
<tr>
<td>Education Category</td>
<td>-0.044</td>
<td>0.113</td>
<td>-0.027</td>
<td>0.008</td>
<td>0.055</td>
</tr>
<tr>
<td></td>
<td>(0.075)</td>
<td>(0.075)</td>
<td>(0.075)</td>
<td>(0.074)</td>
<td>(0.073)</td>
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</tbody>
</table>
How often buying certified food | 0.173 (0.110) | 0.119 (0.109) | 0.135 (0.114) | 0.191* (0.110) | 0.076 (0.113)
---|---|---|---|---|---
Age Category | -0.122 (0.114) | -0.203* (0.114) | -0.244** (0.115) | -0.154 (0.113) | -0.296*** (0.113)
---|---|---|---|---|---
Income Category | -0.031 (0.094) | -0.047 (0.094) | -0.048 (0.096) | -0.088 (0.098) | 0.028 (0.094)
---|---|---|---|---|---
Gender | -0.326 (0.260) | -0.250 (0.252) | -0.638*** (0.258) | -0.442* (0.252) | -0.388 (0.249)
(Male = 1) | | | | | |
---|---|---|---|---|---
Probability to buy certified food | -0.098 (0.111) | -0.042 (0.113) | 0.043 (0.110) | 0.130 (0.110) | 0.143 (0.112)
---|---|---|---|---|---
Knowledge of Wine | 0.129* (0.082) | 0.119 (0.083) | 0.132 (0.082) | -0.053 (0.082) | -0.051 (0.081)
---|---|---|---|---|---
Importance Certificate | 0.812*** (0.098) | 0.663*** (0.096) | 0.727*** (0.103) | 0.503*** (0.088) | 0.499*** (0.091)
---|---|---|---|---|---
Heard Certificate | 0.078 (0.416) | 0.480 (0.356) | -0.362 (0.303) | -0.163 (0.406) | 0.192 (0.285)
---|---|---|---|---|---
Bought Certificate | -0.159 (0.434) | 0.704** (0.282) | 0.710** (0.304) | 0.228 (0.481) | 0.737** (0.328)
---|---|---|---|---|---
Special event | 0.820** (0.370) | 0.835** (0.383) | 0.505 (0.366) | 0.546 (0.362) | 0.653* (0.369)

**Conclusion**

The premise of the research was to see if South African consumers show a WTP for eco-labelled wines. This seems to be the case for all eco-labels. The results confirm the importance of consumer profiles, gender and age in particular, in paying a premium. Consumers who have a high preference for certified wines (high importance) show a higher WTP, partly as well those who experienced this kind of wine before. Interestingly income, the average price usually paid for a wine or education don’t play a role.

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