Stellenbosch 2023 Abstract Submission

Title
Wine Alcohol Content Labels: Consumer v Industry Perspectives

I want to submit an abstract for:
Conference Presentation

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Keywords
Alcohol Content, Wine labels

Research Question
How accurate are alcohol content wine labels in Australia, and how accurate do consumers and producers think labels should be.

Methods
Direct measurement of the alcohol content of wines; Survey of wineries; survey of wine consumers

Results
The average absolute error between actual alcohol content and that reported on wine labels is 0.5%. Consumer and producer expectations for wine label accuracy are very different.

Abstract
Unlike most food and beverage products, for wine there is provision for a substantial deviation between what is reported on the label as the alcohol content of the wine and what the actual alcohol content is. There is also substantial variation in the error tolerance for reporting wine alcohol content on wine labels across counties. For example, for table wine, in Indonesia the permitted variation between what is reported on the wine label as the alcohol content of the wine and the actual alcohol content of the wine in the bottle is 2.0 percentage points; in Australia and the USA it is 1.5 percentage points; in Canada and China the error tolerance is 1.0 percentage point, and in the European Union it is 0.5 percentage points. The basis for the different tolerance levels is not clear.

In this research we measure the alcohol content of wine sold in Australia via direct sampling and compare the reported alcohol content on the wine label to the actual alcohol content of the wine and find that on average the error is 0.5 percentage points and that in the majority of cases the alcohol content of the wine is understated. The potential issues of this error, in terms of drunk driving laws and alcohol policy are explored.
The alcohol content of the wines was established using the Anton Paar Alex 500 alcohol and extract meter. The Anton Paar Alex 500 alcohol meter also determines related parameters, such as calories or degree of fermentation. Benchmarking established that the Alex 500 was very accurate. All measurements were taken in a climate controlled room at 20 degrees Celsius, and repeat measurements were taken from each wine sample. A variance components model was used to establish that the within bottle sampling variation was extremely small, across red wine, white wine, and sparkling wine; and also across wine at low, medium, and high price points.

Survey results established that most Australian wine consumers were unaware that there was an allowable difference between what is reported as the reported alcohol content of the wine and the actual wine content. Consumers also report serious concern about the size of the allowable difference between what is on the label and the actual alcohol content of the wine, especially given the accuracy requirements for beer and spirits, which are 0.2 percentage point. Consumers also report that they did not know beer and spirit labels could also be inaccurate. Consumer preferences for different regimes were established using Case 1 best worst scaling (BWS).

BWS is a method for measuring individuals’ preferences for items (objects or levels). BWS constructs choice sets by forming various item combinations and then asks respondents to select the best and worst items from each choice set. According to the format of the choice sets, BWS is divided into three variants: Case 1, Case 2, and Case 3. Case 1 BWS—or maximum difference scaling lists the items (objects) evaluated by respondents; and constructs a number of different subsets of the items from the list using the experimental design. Each of the subsets is presented as a choice set to respondents, who are then asked to select the best (or most important) and worst (or least important) items in the choice set. This question is repeated until all the subsets are evaluated.

Reporting a maximum alcohol content, with a 1.5 percentage point error margin was the least preferred option of consumers. Across available options consumers most preferred option was for alcohol content to be within 0.5 percentage points, and for the error margin to be displayed on the label.

Hypothetical scenarios of consumer choices with and without accurate information are used to establish some indicative bounds for the value of information to consumers, based on lost consumer surplus value, for choices that change when the true alcohol content value is revealed. Survey results find that most producers support the current regime of allowing an error tolerance of 1.5 percent, and not reporting the error tolerance information on wine labels. Sub-group analysis established that those wineries that export are less concerned about the 1.5 percentage point tolerance, compared to wineries that do not export, as they have a tighter margin for export. Producer preferences for different regimes were established using Case 1 Best worst scaling. Overall producer preferences were for the error margin to be not reported on wine labels, but the cost for reporting this information was found to be substantially less than the cost imposed on consumers by not reporting this information.

The paper concludes with practical suggestions for how Food Standards Australia New Zealand could revise wine label laws in Australia to increase consumer welfare, with minimal impact on producers.

Consent

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